[redacted]

SUPREME COURT OF THE [redacted]

[redacted]

No. [redacted]

THE COMMONWEALTH OF PENNSYLVANIA, COMPLAINANT,

vs.

THE STATE OF WEST VIRGINIA.

THE STATE OF OHIO, COMPLAINANT,

vs.

THE STATE OF WEST VIRGINIA.

[redacted]

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( )

SUPREME COURT OF THE UNITED STATES.

OCTOBER TERM, 1921.

Nos. 20-21 Original.

THE COMMONWEALTH OF PENNSYLVANIA, COMPLAINANT,

vs.

THE STATE OF WEST VIRGINIA.

THE STATE OF OHIO, COMPLAINANT,

vs.

THE STATE OF WEST VIRGINIA.

COMPLAINANTS' TESTIMONY.—Continued.

Witnesses.	Direct.	Cross.	Redirect.	Recross.
Jones, T. J.	....	739	....	....
Denning, L. B.	650	683	709	713
McMahon, J. W.	716	726	738	....
Batchelor, G. F.	741	....	....	....
Whitcomb, Eugene T.	747	788	805	805
Anderson, J. K.	808	831	856	858
Wyer, Samuel S.	860	915	973	....

DEFENDANTS' TESTIMONY.

Nease, H. E.	976	977	1073	1080
Nease, H. E.	980	1038	....	....
Nease, H. E.	1162	1175	....	....
Nease, H. E.	1176	1188	....	....
Krebs, Chas. E.	1083	1122	1133	....
Krebs, Chas. E.	1192	1193	....	....

Witnesses.	Direct.	Cross.	Redirect.	Recross.
Lakin, J. S.	1138	1155	1162	....
Cornwell, John J.	1193	....	....	....
Wallace, H. A.	....	1198	....	....
Robinson, B. F.	1203	1210	1212	1214
Robinson, B. F.	....	....	1323	....
Allman, W. C.	1215	....	....	....
Coffman, I. Wade	1216	1217	....	....
Cunningham, R. T.	1217	1232	1247	1250
Snaith, Chas. M.	1252	1258	1270	1273
Short, Chas. A.	1274	1283	1295	1296
Lewis, E. D.	1297	....	....	....
Wilson, George W.	1299	1301	1303	....
Horner, Vance L.	1304	1314	1321	....
Bowser, Parke	1325	1333	1339	....
Devericks, F. C.	1341	1351	1361	....

COMPLAINANTS' TESTIMONY IN REBUTTAL.

Witnesses.	Direct.	Cross.	Redirect.	Recross.
Robinson, Edwin	1372	1409	1414	1416
Wyer, Samuel S.	1416	1427	1441	1443
Cummins, Robert W.	1444	1447	1449	1455
Corrin, John B.	1449	1452	....	....

DEFENDANTS' TESTIMONY IN SURREBUTTAL.

Witnesses.	Direct.	Cross.	Redirect.	Recross.
Nease, H. E.	1460	1474	1477	1478
Krebs, Chas. E.	1479	1483	1489	1490

ORIGINAL, #20 & #21.

October Term, 1920.

THE COMMONWEALTH OF PENNSYLVANIA

vs.

THE STATE OF WEST VIRGINIA.

THE STATE OF OHIO

vs.

THE STATE OF WEST VIRGINIA.

Proceedings of Tuesday, September 14, 1920.

1624 And now, Tuesday, September 14, 1920, at 10 o'clock A. M., hearing resumed.

NOTE.—At request of counsel, agreed to by all parties, hearing resumed on this date at the office of the Philadelphia Company, instead of September 13, 1920, at the office of the Peoples Natural Gas Company, as arranged at the time of previous adjournment.

Present: The Commissioner, Levi Cooke, Esq.; on behalf of the Commonwealth of Pennsylvania, A. Leo Weil, Esq.; on behalf of the State of Ohio, Freeman T. Eagleson, Esq.; on behalf of the State of West Virginia, George M. Hoffheimer, Esq., Fred O. Blue, Esq., and W. S. John, Esq.

Mr. Eagleson: If the Commissioner and counsel for the State of West Virginia please, at the examination of witnesses in Columbus Mr. Blue, on behalf of the State of West Virginia, asked
1625 Mr. Jones, who was then testifying for the Columbus Gas and Fuel Company, the Federal Gas and Fuel Company, the Dayton Gas Company, and the Springfield Gas Company, to procure some data with reference to the amount of gas furnished by his companies to consumers, and to divide the amount of gas so furnished in percentage as between industrial consumers and domestic consumers; also, the amount of gas sold by his companies to, and giving the number of, industrial consumers. As per agreement,

Mr. Jones has sent with me the information requested, which I at this time, having submitted the same to counsel for West Virginia, and having their approval, spread upon the record, as follows:

1626 The Columbus Gas & Fuel Co., Columbus, Ohio.

The Federal Gas & Fuel Co., Columbus, Ohio.

The Dayton Gas Co., Dayton, Ohio.

The Springfield Gas Co., Springfield, Ohio.

Gas Consumption Year Ended Mar. 31, 1920.

	No. accts.		M cu. ft.
Domestic	111,692		13,310,970
Industrial:			
Manufacturers Iron & Steel Products	151	833,143	
Laundries	16	6,308	
Brick Plants	2	582	
Potteries	1	54,905	
Ice Plants	8	55,300	
Chemical Plants	6	6,099	
Bakeries	78	230,399	
Green Houses	33	17,739	
Piano Plate Mfgs.	7	40,495	
Gas Engine Mfgs.	10	39,668	
Other Industrial Companies	629	505,758	
	941		1,790,396
Grand Total	112,633		15,101,366

Proportion used by industrial consumers 11.85%

1627 The Commissioner: Are there any other items of information pending?

Mr. Hoffheimer: Mr. Commissioner, I will say this: We have pending the *command* or motion in relation to the production of certain contracts in connection with the evidence of Mr. Harry Wallace, those being gas sale contracts of the United Fuel Gas Company, I have been in communication, to a certain extent, with Mr. Altizer, of the United Fuel Gas Company, and I am expecting to hear from him during the present week, in such manner as will enable us to determine whether those contracts are to be brought in, or whether our demand or motion will have to be pressed. I merely call your attention to it in order that it may not be overlooked, that the matter is still pending.

The Commissioner: As I understand the state of the record the demand was made for the contracts and refused by the witness,

under advice of his counsel or counsel for the company of which he was an officer; and that it was then arranged that an
1628 effort should be made by counsel for the State of West Virginia and by Mr. Altizer, as counsel for the company, to reach an agreement as to what part, if any, of the contracts should be produced under the agreement thus to be made, and that is still pending.

Mr. Hoffheimer: I think there was a formal motion made either for an order to produce or a subpœna duces tecum—I have forgotten which—and after that motion was made, there was, outside of the hearing, a conference between counsel for West Virginia and Mr. Altizer, which we hope will obviate the necessity of any formal action on the motion by the Commissioner. The matter will be brought to the attention of the Commissioner later in the week.

The Commissioner: Very well.

1629 G. F. BATCHELOR, a witness produced on behalf of the Complainants, having been duly sworn, testified as follows:

Direct examination.

Mr. Weil:

Q. Give your name, the company with which you are connected, and the office you hold in that company?

A. G. F. Batchelor; Natural Gas Company of West Virginia; president.

Q. How long have you been connected with that company?

A. Thirty-three years.

Q. When were you elected president?

A. 1915.

Q. What was your position with the company prior to that time?

A. Secretary and treasurer.

Q. How long were you secretary and treasurer?

A. Twelve years.

Q. When was the company organized or incorporated?

A. February 18, 1885.

Q. Under what State?

A. The State of West Virginia.

Q. In what business is it engaged and where?

1630 A. It is engaged in the production and sale of natural gas and oil. The production—that is, the gas production—is all in the States of Pennsylvania and Ohio. It is transported to West Virginia—Wheeling is the principal point of consumption; it is distributed and sold there.

Q. Have you a map of your lines?

A. Yes, I have.

Map produced and marked as "Pennsylvania Exhibit No. 25."

Q. I show you paper produced by you, marked for identification Pennsylvania Exhibit No. 25, and ask you to tell us what that is.

A. In order that you may understand the position fully, I might present this map and explain that the company owns and operates two distinct systems: One is in the counties of Mahoning, Columbiana, Carroll, Stark and Tuscarawas, in the State of Ohio. The gas is produced locally and distributed locally in those counties. That is known as our Northern Division. The other, the Southern Division, is located in Greene and Washington Counties,
1631 Pennsylvania; Marshall and Ohio counties, West Virginia, and Belmont County, Ohio. The Northern Division hasn't any physical connection with the Southern Division at all. As I said before, the gas is all produced and distributed locally there. The system, then, in Columbiana and other counties in Ohio——

A. Except Belmont.

Q. The system which is located in Columbiana and other counties in Ohio, which you call the Northern District, is in no way, shape or form connected, either in production or distribution, with the system which you have described in Belmont County, Ohio; Ohio County, West Virginia, and Greene and Washington Counties, Pennsylvania?

A. No, sir.

Q. Now, then, does Pennsylvania Exhibit No. 25, which you have produced, correctly show, in red, in the respective sections and districts, the location of your lines and properties?

A. Yes, sir.

Q. I call your attention to the Southern Division, as shown on this map. You supply in West Virginia the City of Wheeling, Elm Grove, and what, if any, other territory in West Virginia?

A. We supply Greater Wheeling, which takes in out as
1632 far as Elm Grove, West Virginia—that is, all the small boroughs along the National Road there, out to Elm Grove. We supply also Benwood, in Marshall County, West Virginia.

Q. You also supply then Benwood, in Marshall County, West Virginia?

A. Yes, sir.

Q. Now, what other places in West Virginia, if any?

A. Well, those are the only municipalities. We supply scattered consumers along the pipe lines in southern Ohio County and northern Marshall County, West Virginia.

Q. Where do you produce the gas from which this West Virginia consumption is supplied?

A. It is produced in Belmont County, Ohio, and in Greene and Washington Counties, Pennsylvania.

Q. Have you any production in West Virginia?

A. None at all.

Q. Have you ever had any?

A. No, sir.

Q. From the beginning of the history of your company?

A. No, sir.

Q. What population do you supply in West Virginia, approximately?

A. The population of those places we supply is approximately

60,000. Wheeling has, I think, about fifty-four thousand
1633 seven hundred odd inhabitants, and Benwood about 4,300, and probably a thousand outside of those places.

Q. Now, what towns do you supply in Ohio?

A. There are no incorporated towns there at all—just a rural district along the pipe lines.

Q. In Ohio?

A. In Ohio.

Q. And what consumption have you there—what population?

A. Well, we have but 375 consumers in Belmont County, Ohio.

Q. How many consumers have you in West Virginia?

A. About 14,100 domestic consumers and 37 industrial consumers.

Q. Now, what population do you supply in Pennsylvania?

A. I don't know what the population is, but our consumers there number about 324.

Q. Do you supply any incorporated towns in Pennsylvania?

A. No, except West Alexander.

Q. Now, then, to recapitulate: Give us the number of consumers in West Virginia.

A. 14,100 domestic consumers, 37 industrial consumers.

Q. How many in Ohio?

A. 375 in Belmont County, Ohio.

Q. And what are those—all domestic?

1634 A. All domestic.

Q. How many in Pennsylvania?

A. 324.

Q. And what are those?

A. Those are domestic.

Q. All domestic?

A. Yes.

Q. You are speaking now of the Southern Division of your company, of course?

A. Yes.

Q. Are there any other companies supplying gas in Wheeling, besides the Natural Gas Company of West Virginia, your company?

A. Our company serves all the domestic consumers, excepting a few along the National Road, who are supplied by the City and Suburban Gas Company.

Q. What is the City and Suburban Gas Company? Is it a local company?

A. It is a local company there, yes, sir. The Manufacturers Light & Heat supplies some of the industries, but none of the domestic consumers.

Q. Can you give us a percentage of the gas supplied by your company in West Virginia that is consumed by domestic consumption?

1635 A. During 1919, 61 per cent was domestic.

Q. And what per cent was industrial?

A. 39 per cent industrial.

Q. Where are your gas wells located?

A. In Washington and Greene Counties, Pennsylvania, where we have approximately 100 wells, and in Belmont County, Ohio, where we have about 65.

Q. I believe you stated you have no gas wells or production whatever in West Virginia?

A. None at all.

Q. Has this condition obtained the whole thirty-three or thirty-four years that you have been connected with the Natural Gas Company of West Virginia?

A. Yes, sir.

Q. And you have been connected with it throughout its entire history?

A. For thirty-three years.

Q. In other words, you never had any gas production then in West Virginia by your company?

A. At one time, a number of years ago, we thought we had some gas production there. We drilled a few—possibly five or six—shell wells near Twilight, out on the National Road there. When
1636 we came to use it, why, cold weather came on, and we found we didn't have any.

Q. Then you never obtained any gas that you drilled for?

A. No.

Q. In West Virginia?

A. No.

Q. As of December 31, 1919, give us the leases—gas leases—held by your company, operated and unoperated, in each of the counties of Pennsylvania, Ohio and West Virginia?

A. As of December 31, 1919, the company held in Greene County, Pennsylvania, 9,042 acres of operated leases, 5,700 unoperated, total of 14,742 acres; in Washington County, Pennsylvania, 4,172 operated, 19,373 unoperated, total of 23,545; in Belmont County, Ohio, 7,296 operated, 20,279 unoperated, total of 27,575; Monroe County, Ohio, 105 operated, 32 unoperated, total 137 acres; in Marshall County, West Virginia, none operated, unoperated 12,146; in Ohio County, West Virginia, none operated, unoperated 130; making a total acreage in all the places of 20,615 operated, 57,660 unoperated, total of 78,275 acres.

Q. In addition to the production which you have described, you purchased gas, did you not?

A. Yes, we have purchased some, not a great deal.

Q. During the ten years from 1910 to 1919, inclusive, how
1637 much gas did you produce and dispose of in this field?

A. I beg your pardon; will you repeat that question?

Q. I asked you, during the last ten years, how much gas did you produce and dispose of in this Southern Division of your field?

A. During that period there was 26,309,660 used by ourselves.

Q. And how much, during that same period, did you purchase?

A. We purchased 2,291,952,000.

Q. In other words, you produced about 92 per cent of all the gas you supplied and purchased a little over 8 per cent?

A. Yes, sir.

Q. Now, where was this gas which you purchased—this 8 per cent of gas which you purchased, where was that produced, principally?

A. Of the 2,291,952,000 cubic feet of gas purchased, 1,013,473,000 was produced in Pennsylvania.

Q. And how much in Ohio?

A. In Ohio, 179,083,000 was produced in Belmont County, Ohio. The remainder, 1,099,396,000 cubic feet, purchased from the City and Suburban Gas Company, was produced in both Pennsylvania and West Virginia.

Q. That is, purchased by you from the City and Suburban Gas Company?

A. From the City and Suburban Gas Company.

1638 Q. And they produced it, you say, in both Pennsylvania and West Virginia?

A. Produced it in both States.

Q. You don't know in what proportions?

A. I do not.

Q. Now, the total amount—what were the figures?

A. The total amount purchased?

Q. No, the amount from the City and Suburban?

A. 1,099,396,000 cubic feet. Since September, 1919, however, that company has not been able to furnish any gas at all. We have had none from them since that time.

Q. That is, for about a year?

A. Yes. So that all the gas that was delivered in Wheeling to West Virginia consumers was purely Ohio and Pennsylvania gas.

Q. Have you a statement there showing the sales, domestic and industrial, and the total, also the gas purchased and gas produced, for the years 1910 to 1919, inclusive?

A. I have.

Q. Will you just read that, please?

1639 A. (Reading:)

The Natural Gas Company of West Virginia.

Sales.

	Domestic.	Industrial.	Total.
1910	1,986,426,000	708,987,000	2,695,413,000
1911	2,000,410,000	845,836,000	2,846,246,000
1912	2,117,852,000	840,040,000	2,957,892,000
1913	1,917,963,000	754,822,000	2,672,785,000
1914	1,995,505,000	623,078,000	2,618,583,000
1915	1,853,455,000	719,687,000	2,573,142,000
1916	1,813,093,000	1,068,767,000	2,881,860,000
1917	2,030,442,000	1,188,926,000	3,219,368,000
1918	2,053,768,000	1,159,210,000	3,212,978,000
1919	1,823,633,000	1,099,712,000	2,923,345,000
Totals ..	19,592,547,000	9,009,065,000	28,601,612,000

		Gas purchased.*	Gas produced.
1910	.....	.....	2,695,413,000
1911	.....	260,375,000	2,585,871,000
1912	.....	201,970,000	2,755,922,000
1913	.....	476,684,000	2,196,101,000
1914	.....	384,546,000	2,234,037,000
1640 1915	.....	225,431,000	2,347,711,000
1916	.....	301,793,000	2,580,067,000
1917	.....	245,691,000	2,973,677,000
1918	.....	127,616,000	3,085,362,000
1919	.....	67,846,000	2,855,499,000
Totals,	.....	2,291,952,000	26,309,660,000

*Produced in Pennsylvania	.....	1,013,473,000
" " " & W. Va.	.....	1,099,396,000
" " Belmont County, Ohio	.....	179,083,000
		2,291,952,000

(Large map produced and marked as Pennsylvania Exhibit No. 26.)

Q. Mr. Batchelor, I call your attention to paper marked for identification Pennsylvania Exhibit No. 26, and ask you what that is?

A. This is a map on a greater scale than the one marked Pennsylvania Exhibit No. 25—that is, of the Southern Division.

Q. Southern Division only?

A. Southern Division only.

1641–3 Q. Of your company?

A. Yes, sir.

Q. And this shows the location of the wells, compressing stations, lines and towns and properties, and so forth, all the way through? According to the legend, it shows the compressing station, regulating station, producing gas wells, oil wells with gas casinghead, and distributing plant?

A. Yes, sir.

Q. Does this correctly represent the properties, lines, stations, and so forth, of your company?

A. Yes, sir.

Mr. Weil: I offer in evidence Pennsylvania Exhibit No. 25 and Pennsylvania Exhibit No. 26, in connection with the testimony of the witness.

A recess was here taken until 2.00 o'clock p. m.

1644 Tuesday Afternoon, September 14, 1920.

And now, the hour of 2 o'clock p. m. having arrived, parties met pursuant to adjournment.

Present, parties as before.

Counsel for West Virginia stated that there would be no cross-examination of G. F. Batchelor.

Mr. Hoffheimer: We move to strike out the testimony of Mr. Batchelor as incompetent, irrelevant and immaterial.

The Commissioner: Note the motion.

EUGENE P. WHITCOMB, a witness produced on behalf of Complainants, being duly sworn, testified as follows:

Direct examination.

Mr. Eagleson:

Q. What is your full name and place of residence?

A. Eugene P. Whitcomb, Pittsburgh, Pennsylvania.

Q. Mr. Whitcomb, you have had somewhat to do with the
1645 natural gas industry in Ohio, Pennsylvania and West Virginia, in the years past?

A. I have, yes, sir.

Q. Please state in brief summary your connection with the natural gas industry from the beginning, naming the companies with which you have been identified, if more than one, and the nature of service rendered and now being rendered by you.

A. On October 30, 1876, I entered the employ of W. & B. Duke, a firm located at Bradford, Pennsylvania, and engaged in the manufacture and sale of lumber and oil tanks, and they were also producers of crude petroleum. My principal occupation at the beginning of that period was unloading and selling lumber in cars, later purchasing supplies and material for oil wells, taking leases, and later I had charge of one or two of the oil properties, in which I owned an interest. I remained with that interest until after the death of the junior partner, and in 1893 became associated with Mr. T. N. Barnsdall. I was made secretary and treasurer and assistant to the general manager of the Manufacturers Gas Company, Warren and Chautauqua Gas Company, the Northern Oil Company, and the Southern Oil Company, the gas companies operating principally in Warren, McKean and Elk Counties, Pennsylvania, with transmis-
sion lines from the field, a distance of about thirty miles each,
1646 to Warren and Bradford, Pennsylvania, and supplying other smaller towns in that locality. I remained at Bradford until 1902, at the time of the organization of the Union Natural Gas Corporation, when I came to Pittsburgh and was made secretary and treasurer of that company. In 1907, I was made general manager, and later vice president of the company, and remained in that position until 1917, when, on the death of Mr. Barnsdall, I was elected to succeed him as president, which position I occupy at this time.

Q. Back of that, where did these companies that you have referred to operate?

A. The Northern Oil Company was an oil producing company and operated principally in Elk County, Pennsylvania. The Southern Oil Company was operated in Southern Ohio and in Wood,

Harrison, Lewis, Wetzel and other counties in West Virginia. The Union Natural Gas Corporation was organized under the laws of the State of Delaware on May 24, 1902. The first meeting of the stockholders for the election of directors to perfect the organization, and so forth, was held on May 26th; on June 2nd of that year they commenced active operations, having acquired practically all of the stock of the Athens Gas, Light & Electric Company, at Athens, Ohio, the Buckeye Gas Company, having a distributing plant and transmission lines and wells located at Circleville, Ohio,
1647 the Newark Natural Gas & Fuel Company, located at Newark, Ohio, having field and transmission lines, and a small number of wells located principally in Lincoln County, also the Manufacturers Gas Company and the Warren and Chautauqua Gas Company, both Pennsylvania corporations. On September 23rd of that year it acquired 50 per cent, less one share of the par value of $100, of the capital stock of the Reserve Gas Company, a West Virginia corporation, and of the Connecting Gas Company, an Ohio corporation, together with T. N. Barnsdall's right and interest to a certain contract executed on June 20, 1902, between himself, the Hope Natural Gas Company, and the Reserve Gas Company. On November 1, 1902, it acquired practically all of the capital stock of the Fremont Gas, Electric Light & Power Company, located and having a distributing plant at Fremont, Ohio. On the same date, the same proportional part of the stock of the Bellevue Gas Company, owning a distributing plant at Bellevue, Ohio, was acquired.

Q. Could you give the counties?

A. Fremont is in Sandusky County, and Bellevue is in Sandusky County. At the same time, it acquired an interest in the stock of the Marion Gas Company, owning a distributing plant at Marion, in Marion County, Ohio.

Q. Can you give something of the size of those companies
1648 that you are referring to, with reference to the number of consumers, as of the time each was taken over?

A. Yes.

Q. You might give them as you go along.

A. I have not been posted recently as to the number of consumers, although the field in this portion of Ohio was nearly exhausted. It was from what we term the lime formation, with a sulphur base, and the only place that had a supply of natural gas at that time of any dependable amount was Findlay.

Q. Findlay, in Hancock County, Ohio?

A. Hancock County, yes. There had been an ample supply to all of those towns a few years previous to this, but the field had become nearly exhausted. The same condition prevailed throughout and on April 3, 1903, it acquired the stock of the Citizens Gas & Electric Company, owning distributing plants at Lorain and Elyria, Ohio, located in Lorain County. Both of these distributing plants were old artificial plants. I have no knowledge of their having been used for the distribution of natural gas, though they may have been so used years before. On July 27, 1903, it acquired the stock of the Citizens Gas, Light & Coke Company, located at Findlay, Hancock

County, Ohio. They had a natural gas distributing system which had been in use for a number of years, and transmission lines
1649 leading to the wells, and all the field was, I think, within that county. As I have stated, the holdings were substantially all of the stock of those companies. It subsequently acquired, and owns at the present time, all of the stock of those companies, excepting the shares necessary to qualify each of the boards of directors, with the exception, however, of the stock of the Connecting Gas Company and the Reserve Gas Company, which interests at this time are the same as I have stated,—all the stock less one share of the par value of $100.

Q. Did you refer to the Logan Natural Gas & Fuel Company?

A. I think I did.

Q. No, I think you omitted that.

A. The Logan Natural Gas Company stock was acquired at the first period referred to, June 2, 1902. The Logan Company at that time was comparatively small. Its capitalization was but $40,000, though its investment was largely in excess of its capital. It owned approximately 20,000 acres of leaseholds in Fairfield County, Ohio, and it was supplying gas at that time to the town of Logan, at which place its offices were located, and a line was laid north to supply gas to the City of Newark. Their wells had declined to such an extent that there was not a sufficient volume to meet the require-
1650 ments. There were a number of other smaller towns in Fairfield County that were being supplied by the Logan Company at that time,—Sugar Grove, and two or three others; I don't just recall the name of them, but they were small. That covers the entire holdings of the Union Natural Gas Corporation at the present time.

Q. What is the total number of the companies you have referred to?

A. Thirteen. There is one more, however, that I have omitted, the Preston Oil Company, which was incorporated under the laws of the State of Ohio, June 17, 1914. It was engaged in the manufacture of gasoline and the production of crude petroleum. They have no interest whatever in any of the gas production. In fact, there is an agreement between the Logan Company and the Preston Company, to the effect that if the Preston Company drills a gas well, the Logan Company has the right to purchase it at cost, and if the Logan Company drills an oil well, the Preston Company has the right to acquire it.

Q. The Preston Oil Company is located and operating where?

A. Its principal office is at Columbus, Ohio, and operations are principally in Hocking County, Ohio. The Union Natural Gas Corporation had, as of June 30, 1920, 1734 stockholders, of
1651 which 1,643 own less than 200 shares of stock. The largest individual holding by one person or firm is 4,154 shares; the next in order is 2,772 shares, then 2,557, 2,111, 1,914, 1,780, 1,130, 1,100, 968, 875, 872 and two with 800 each. All the rest are below 800.

Q. What is the par value of that stock?

A. $100. The capitalization of the Union Natural Gas Corporation on May 24, 1902, was $6,000,000; on September 23, 1902, it was increased to $8,000,000; on June 1, 1903, it was increased to $9,000,000, and on March 20, 1913, to $10,000,000, which is the authorized capitalization now. Do you wish to know the personnel of the board?

Q. You may give it if you have it available.

A. I think I omitted to say that the shares are a hundred dollars par, and the total number of shares are one hundred thousand. The officers of the company, as elected at the last annual meeting, are E. P. Whitcomb, president; S. Y. Ramage, vice president; David E. Mitchell, secretary; C. B. Dorning, assistant secretary; H. Stehley, treasurer, and C. B. Dorning, assistant treasurer. The directors are E. P. Whitcomb, H. McSweeney, S. Y. Ramage, A. A. Armstrong, P. W. Luther, Joseph Seep, M. W. Splane, J. Arthur Fisher, and T. W. Phillips, Jr.

Q. Have you any bonds or outstanding evidences of your
1652 obligations that you might refer to in connection with the stock?

A. The bonds authorized were six millions of dollars. The amount in the treasury at this time is $1,422,000; cancelled, $178,000; redeemed, $2,822,000, and outstanding as of this date, $1,578,000. I have the same data pertaining to the underlying companies.

Q. Who is the president of all these underlying companies which you have enumerated as being owned by the Union Natural Gas Corporation?

A. I am. The personnel of the boards of all of the underlying companies is very much the same. I omitted, in giving the names of the directors of the Union Natural Gas Corporation, to suggest that the executives of the Union consists of S. Y. Ramage, W. W. Splane and E. P. Whitcomb.

Q. Have you a map or print showing the location of the various underlying companies which you have enumerated here, owned by the Union Natural Gas Corporation?

A. I have.

Q. Together with the connecting line system, if such there be?

A. The map which is before me here is up to date, showing the lines, the distributing plants, the acreage operated and un-
1653 operated in each county, and also showing the distributing systems of other companies to which we are wholesaling gas. I have a printed map here which will answer the purpose.

Mr. Eagleson: For the purposes of identification, let this map to which witness has referred be marked Ohio Exhibit No. 10.

Q. In your own language, tell us as briefly as possible what Ohio Exhibit 10 is.

A. I would call it Field and Main Line Map of the subsidiary companies of the Union Natural Gas Corporation in Ohio and Indiana.

Q. On Exhibit 10 I think it would be well for you to point out with a little more particularity the location of these companies,

naming at least the principal or larger municipalities served by them, and giving the counties in which they are located?

A. The Athens Gas Light & Electric Company, located at Athens, Athens County, Ohio, showing the main line connecting with the two 16-inch lines of the Connecting Gas Company, from the Ohio River to Sugar Grove in Fairfield County. I am speaking of connecting with the Connecting Gas Company in Ohio, which
1654 takes all West Virginia gas; the Buckeye Gas Company, located at Circleville, in Pickaway County, Ohio, with lines extending northeast, and connecting with the 18-inch line from Sugar Grove in Fairfield County, to Dayton, in Montgomery County, and supplying gas to Circleville in Pickaway County; the Newark Natural Gas & Fuel Company, with a distributing plant in Licking County, Ohio, connecting with lines of the Logan Natural Gas & Fuel Company, going north from Sugar Grove in Fairfield County, and with another line going east from the 16-inch trunk line, near Granville, Ohio, to Newark, Ohio, and supplying Newark, Ohio; the Marion Gas Company, with a distributing plant located at Marion, Marion County, Ohio, and an 8-inch line running east and connecting with a 16-inch line of the Logan Natural Gas & Fuel Company, near Mt. Gilead, in Morrow County, Ohio; the Fremont Gas, Electric Light & Power Company, with distributing plant at Fremont, in Sandusky County, with lines extending from a point near Monroeville, in Huron County, running northwestwardly to Fremont, and supplying gas to that place, in Sandusky County, Ohio.

Q. Any other places supplied by it?

A. The Bellevue Gas Company, owning the distributing plant at Bellevue, Ohio, and supplied by a main transmission line
1655 running to Fremont, and distributing gas at Bellevue. This indicates that Bellevue is partly in Huron and partly in Sandusky Counties. The Citizens Gas, Light & Coke Company, with distributing plants located at Lorain and Elyria, in Marion County, Ohio, and being supplied from the 12-inch main line of the Logan Natural Gas & Fuel Company, extending northeastwardly from a point near Monroeville, Huron County, Ohio, to a point near South Amherst, from which point there are two branch lines, one of 10 inches to Lorain, and one of 8 inches to Elyria. There is also another source of supply to each of these towns through a 12-inch line, running northwardly from a point near Litchfield, in Medina County, Ohio, connecting with field lines running southwestwardly, and connecting with the 10 and 8 inch lines supplying Elyria and Lorain. There is also another source of supply to these two places, coming from what we term the Dover field, in the northeasterly part of Lorain County, which connects with the main line at Avon compressing station of the Logan Natural Gas & Fuel Company, in Lorain County. The Citizens Gas, Light & Coke Company, having a distributing plant at Findlay, in Hancock County, Ohio, supplied by the Logan Natural Gas & Fuel Company, through a 10-inch line extending westwardly from a
1656 point near Seneca, in Seneca County, Ohio, to Findlay, in Hancock County, Ohio. The transmission lines of the Logan

Natural Gas & Fuel Company, starting at Sugar Grove, at which point connection is made with the Reserve Gas Company, at a compressing station of the Logan Natural Gas & Fuel Company at Sugar Grove. The line running westwardly consists of approximately 84½ miles of 18-inch pipe, extending to a point about two miles north of the City of Dayton, to which it is connected with a 12-inch line to the northeast of the City of Dayton, and a 10-inch line to the northwest of Dayton. From that point to Muncie, Indiana, there is an extension of 78 miles of 16-inch pipe, with its terminal point at Muncie, Delaware County, Indiana. With a branch of 12-inch pipe, extending northwestwardly from Muncie to Fairmont, in Grant County, Indiana; a branch line extending southwestwardly from Muncie, a distance of about twenty miles, of 10-inch pipe, connecting with the distributing plant at Anderson, Madison County, Indiana; a line of about fourteen miles, of 8-inch pipe, extending southwestwardly from a point near the northerly line of Randolph County, Indiana, to New Castle, in Henry County, Indiana; a 10-inch line from the 16-inch main line, at a
1657 point near the southwestwardly line of Darke County, Ohio, extending southwestwardly a distance of about eleven miles to Richmond, Indiana.

Q. May I ask right there if these various municipalities in Indiana, to which you have referred, and to which the lines of the Logan Natural Gas & Fuel Company extend are supplied by gas transported to them by the Logan lines?

A. All this gas is supplied by the Logan Natural Gas & Fuel Company from gas taken from West Virginia through the Sugar Grove compressing station.

Q. Do you know how many municipalities in Indiana are supplied through the lines of the Logan Company?

A. There are nine in Indiana—Fairmont, Gas City, Hartford City, Lynn, Muncie, New Castle, Normal City, Richmond and Riverside. The entire service in these towns is with natural gas. It is also supplying the gas to the Central Indiana Gas Company and delivering it into their lines at Muncie for transmission and use in a mixed gas which they sell to their consumers in these other towns.

Mr. Weil:

Q. Name the towns.

A. Marion, in Grant County; Elwood, in Alexandria; and Anderson, in Madison County. I don't know what proportional part of the gas they are using.

1658 Mr. Eagleson:

Q. That is, as between natural and artificial gas?

A. Yes.

Q. What is the source of the natural gas which is transported through the Logan Natural Gas & Fuel Company lines to the Indiana consumers?

A. West Virginia.

Q. Exclusively?

A. Exclusively, yes. There are a number of towns south of the 16-inch transmission line between Dayton, in Montgomery, Ohio, and the Indiana state line, which are supplied by the Logan Natural Gas & Fuel Company, through distributing systems owned by the Jantha Light & Heat Company and one down to the north of Greenville, in Darke County.

Q. Can you name all the towns to which you have referred, served by the Jantha Light, Heat & Power Company, by gas furnished to it by the Logan Natural Gas & Fuel Company?

A. Granville, New Madison and Castine, in Darke County, Eldorado, West Manchester, Harrison, Euphemia, Lewisburg, West Alexandria, Eaton and New Paris, in Preble County, Indiana, and Brookville, in Montgomery County. All of the natural gas service to the City of Dayton is supplied by the Logan Natural Gas
1659 & Fuel Company through its two lines—16 and 18-inch lines—as I have said.

Q. What is the source of gas supply to the Jantha Company and also to the Dayton Company?

A. All from West Virginia.

Q. What other lines or divisions of the Logan Natural Gas & Fuel Company are there in Ohio?

A. From Sugar Grove, in Fairfield County, extending north to Bangs compressing station, in Knox County, a 16-inch line paralleled by an 8 and 10-inch line, from a point near Union, in Licking County, Ohio, to a point near McKean, in Licking County. The balance of the paralleling line to Bangs station is 16-inch. An 8-inch line extends southwestwardly from Sugar Grove in Fairfield County, to Chillicothe, in Ross County. An 8-inch line extends northeastwardly from Sugar Grove compressing station in Fairfield County, to a point near Richlands, in Fairfield County, with an extension of a 4-inch line in a northeastwardly direction, supplying gas to Millersport in Fairfield County, to Lakeside, Hebron, Thorneville and Jacksontown, and connecting with the distributing system at Newark, Licking County. A line of 6-inch and 8-inch pipe, extending in a westerly direction from Bangs, Knox County, Ohio, connecting with the distributing plants at Mt. Liberty and Centerburg, in Knox County, and with a
1660 distributing plant located at Delaware, in Delaware County, Ohio.

Q. What company distributes gas in Delaware, Delaware County, Ohio?

A. The Delaware Gas Company. That is not an underlying company of the Union Natural Gas Corporation. The gas is wholesaled at this point.

Q. When you refer to the lines of the Logan Natural Gas & Fuel Company extending to a certain municipality, do you mean to imply that that municipality is supplied by the Logan Natural Gas & Fuel Company?

A. Yes, that is all the supply they have. Off of that line just re-

ferred to, extending southwestwardly from Bangs, there is a 4-inch line, starting at a point near Kingston, in Delaware County, and running in a southwesterly direction, supplying gas to Sunbury and Galena, in Delaware County, and to Westerville, in Franklin County. There are two 10-inch lines extending northwestwardly from Sugar Grove station for a short distance, and connected up with a 12-inch line running in a northwestwardly direction, to a point north of Homer, in Monroe County, where it is paralleled for a distance of
3½ miles, with a 10-inch line, and at the terminal point of the
1661 two parallel lines, connected to a 16-inch line, extending
northwestwardly to a point near Mt. Gilead, continuing in a northerly direction to a point near Vernon, in Crawford County, and from that point northwardly to a point near Monroeville, in Huron County. An extension of 12-inch pipe goes westwardly for a distance of about two miles, and an extension of 10-inch pipe northwardly from that point and about twelve miles of 10-inch pipe connecting with the distributing system of the distributing company to Sandusky, in Erie County, Ohio, extending northwestwardly from a point at the terminal of the 10-inch connection, an 8-inch line supplying Bellevue in Erie County, and Clyde, in Sandusky County. From Clyde northwestwardly two 6-inch parallel lines supply Fremont, in Sandusky County, Ohio, and a 10-inch line running in a northwestwardly direction, starting at a point near Galion, in the southeasterly part of Crawford County, supplies Bucyrus, in Crawford County, and Sycamore, with a branch line of 6-inch pipe running southwestwardly from Sycamore, supplying Upper Sandusky, in Wyandot County, with another branch of 4-inch line off from the 10-inch, at a point near Seneca, Seneca County, extending southwestwardly, and supplying Carey, in Wyandot County. A
1662 line of 10-inch pipe running northeastwardly from a point
near Seneca, in Seneca County, supplying a distributing plant at Tiffin, Seneca County. A branch line continuing northwestwardly from Seneca, of 8-inch pipe, supplying Fostoria, Seneca County; another branch line running westwardly, of 10-inch pipe, from Seneca, supplying Findlay, in Hancock County, Ohio, and some 3- and 4-inch lines in the southerly part of Richland County, supplying gas to Bellevue and Butler. These lines get their supply locally. There are two parallel lines of 12-inch and one line of 8-inch, starting at Pavonia compressing station in Ashland County, extending southwestwardly and connected to a distributing plant at Mansfield, in Richland County, with an extension of 16-inch pipe from a point north of Mansfield, to Bucyrus, where it connects with a 10-inch transmission line at that point. A line extends from the field in the central part of Wayne County, consisting of 8 and 16-inch pipe, connecting with the Pavonia compressing station in Ashland County, together with a line of 8- and 12-inch from the northwesterly part of Holmes County, extending northwestwardly and connecting with the 12-inch field line, running parallel with the southerly line
of Ashland County, and connecting with the Pavonia
1663 compressing station; another line of 8- and 10-inch pipe, from
a point near Butler, in the southeasterly part of Richland

County, going northwardly and connecting with the 16-inch line, in the southwestwardly part of Ashland County directly east of the Pavonia compressing station. These lines that I have last referred to are field gathering lines and large field trunk lines. This map also shows the amount of acreage held by the Logan Natural Gas & Fuel Company, as of June 30, showing the amount operated and unoperated in each of the counties.

Q. You might state that as specifically and briefly as possible in each county.

A. I have here a list of the Logan Natural Gas & Fuel Company leaseholds, as of December 31, 1919, in the State of Ohio.

Q. Will you please read that?

(Witness does so. See next page.)

1664 The Logan Natural Gas & Fuel Company.

Leaseholds Dec. 31, 1919, *Ohio.*

Ashland Lorain field:	Operated leaseholds. Acres.	Unoperated leaseholds & lands in fee. Acres.	Total leaseholds. Acres.
Ashland County ..	15,815.	34,164.32	49,979.32
Cuyahoga " ..	939.50	1,993.27	2,932.77
Crawford " ..	.....	.20	.20
Holmes " ..	1,265.5	53,250.81	54,516.31
Lorain " ..	1,324.5	23,063.34	24,387.84
Marion " ..	.....	3,334.10	3,334.10
Medina " ..	7,559.34	55,617.41	63,176.75
Morrow " ..	.....	2,684.	2,684.
Richland " ..	5,704.	23,425.32	29,129.32
Wayne " ..	6,254.5	106,803.92	113,058.42
Seneca " ..	.....	.10	.10
Total	38,862.34	304,336.79	343,199.13

1665

Homer field:			
Coshocton County .	200.00	73,513.11	73,713.11
Knox " .	9,867.53	2,189.61	12,057.14
Licking " .	9,307.13	2,532.	11,839.13
Muskingum " .	.....	2,790.	2,790.
Total	19,374.66	61,024.72	100,399.38

Sugar Grove:	Operated leaseholds. Acres.	Unoperated leaseholds & lands in fee. Acres.	Total leaseholds. Acres.
Athens County ...	.....	18,744.	18,744.
Fairfield " ...	1,855.	132.67	1,987.67
Gallia " ...	.....	24,284.60	24,284.60
Hocking " ...	7,401.	25,576.43	32,977.43
Meigs " ...	.....	39,714.	39,714.
Jackson " ...	.....	16,234.50	16,234.50
Perry " ...	239.	1,470.50	1,709.50
Vinton " ...	4,995.21	25,954.65	30,949.86
Total	14,490.21	152,111.35	166,601.56
Grand Total	72,727.21	537,472.86	610,200.07

1666 The Logan Natural Gas & Fuel Company leaseholds and land in fee in Ohio for the years 1910 to 1919, are:

The Logan Natural Gas & Fuel Company.

Leaseholds and Land in Fee.

	Operated acres.	Unoperated acres.	Total acres.
Dec. 31, 1910	A	A	422,962.28
" " 1911	A	A	466,973.66
" " 1912	46,210.28	441,579.40	487,789.68
" " 1913	52,123.28	434,597.80	486,721.08
" " 1914	55,738.72	290,575.06	346,313.78
" " 1915	64,288.12	311,731.96	376,020.08
" " 1916	70,167.05	331,761.52	401,928.57
" " 1917	72,614.55	497,294.64	569,909.69
" " 1918	73,936.46	570,520.15	644,456.61
" " 1919	72,727.21	537,472.86	610,200.07

A—Not Available.

1667 Q. Have you acreage in Indiana, either operated, unoperated or held?

A. No, we have not. The only realty that we have in Indiana is regulator sites and small holdings of that kind. We have no leaseholds.

Q. State for the record an explanation of the circles as they appear on Ohio Exhibit 10, in Lorain, Medina, Wayne and other counties?

A. The circles on the map, indicated in yellow, together with the notations with reference to operated, unoperated and total acreage, refer to the amount of acreage held by the Logan Natural Gas Com-

pany in each of those counties, without reference, however, to the location in the county.

Q. And as specifically given by you a moment ago?

A. As indicated in the statement which I have just read, as of December 31, 1919.

Q. Can you give us the number of counties in Ohio into and through which your system, as you have been describing it, extends?

A. There are thirty-six counties within the state.

Q. Can you name them?

A. Yes, as follows: Sandusky, Erie, Lorain, Cuyahoga,
1668 Seneca, Huron, Medina, Hancock, Wyandot, Crawford, Ashland, Wayne, Richland, Marion, Morrow, Knox, Holmes, Licking, Delaware, Coshocton, Franklin, Muskingum, Pickaway, Fairfield, Perry, Hocking, Vinton, Athens, Jackson, Meigs, Ross, Madison, Greene, Montgomery, Preble and Darke.

Q. Can you give us the number and name of the counties in Indiana, into which gas is distributed through your pipe line system?

A. I can; they are as follows: Randolph, Wayne, Henry, Delaware, Madison and Grant.

Q. Now, to clarify your testimony further with reference to the municipalities to which your transportation lines extend, I will ask you in what manner they are designated on Ohio Exhibit 10?

A. They are marked on the map in red; all those that are marked in red indicate that the Logan Natural Gas & Fuel Company, or some other underlying company of the Union Natural Gas Corporation own the distributing system. There are other municipalities to which the Logan Natural Gas & Fuel Company is supplying gas, which are marked in blue, both in Ohio and Indiana; there are others in Indiana which are marked in yellow, which indicate that a portion of the gas used is supplied by the Logan Natural Gas
1669 & Fuel Company and is used in the manufacture of an artificial or mixed product.

Mr. Weil:

Q. Who owns the distributing systems in these marked in blue or yellow?

A. The distributing systems are owned by other parties than the Union Natural Gas Corporation. Those in yellow are owned by the Central Indiana Gas Company; those in blue are owned by various companies, to which the Logan Natural Gas & Fuel Company wholesales the gas. The stars on the map indicate the location of the compressing stations.

Mr. Eagleson:

Q. Give the location of the various compressing stations?

A. The first of most importance is the Sugar Grove Station, located at Sugar Grove, in Fairfield County, Ohio and has an approximate rate of horse power of 9,500. It takes care of all of the gas that comes through the Reserve and the Connecting Gas Company's lines from West Virginia. Another similar compressing station is located in the southeasterly part of Hocking County, at a point near

Union Furnace, which is used for the gas purchased and pro-
1670 duced in that portion of the field and delivered in the transmission system south of Sugar Grove. Another compressing station is located at Bangs, in Knox County. Another compressing station is located at Pavonia, in the southeasterly part of Ashland County, and a similar one at a point southeastwardly about five miles distant from Lorain, in Lorain County.

Q. Can you give us the municipalities in Ohio, the number of consumers, population therein served, with natural gas, in Ohio?

A. Yes.

Q. And have you also the same information with reference to Indiana?

A. I have.

Q. Will you please produce it?

A. (Witness reads as his answer the following:)

1671 The Logan Natural Gas & Fuel Company.

Number of Consumers and Population Served with Natural Gas.

Ohio and Indiana.

December 31, 1919.

Cities & Towns Served Direct.

Name.	Population.	Number consumers,		
		Domestic.	commercial, industrial & miscellaneous.	Total.
Adelphia	725	112	3	115
Amanda	650	189	6	195
Amherst	2,700	668	24	692
Ashland	12,000	2,921	91	3,012
Ashville	1,100	285	8	293
Athens	6,418	1,936	59	1,995
Bellevue	5,900	1,750	39	1,798
Bellville	1,400	324	14	338
Berlin Heights	525	167	7	174
Birmingham	350	90	5	95
Bucyrus	12,000	2,959	60	3,019
Butler	1,000	242	7	249
Cardington	1,800	413	15	428
1672				
Carey	2,500	680	13	693
Centerburg	1,500	312	14	326
Chillicothe	15,831	4,082	41	4,123
Chauncey	800	183	3	186
Circleville	7,048	1,721	49	1,770
Clyde	4,200	1,027	29	1,056

Name.	Population.	Number consumers, commercial, industrial & miscellaneous. Domestic.		Total.
Crestline	4,200	1,114	10	1,124
Dover	300	69	4	73
Edison	550	139	2	141
Elyria	20,000	5,107	126	5,233
Findlay	17,015	4,667	16	4,683
Florence	93	23	4	27
Fostoria	10,000	2,679	66	2,745
Fremont	15,000	3,643	94	3,737
French Creek	500	128	1	129
Galena	400	155	3	158
Galion	8,200	2,028	28	2,056
Hallsville	525	82	2	84
Hebron	900	224	..	224
1673				
Homer	350	306	2	308
Jacksontown	200	50	..	50
Kingston	1,000	279	8	287
Lakeside	250	52	..	52
Laurelville	725	157	7	164
Lexington	800	184	4	188
Litchfield	225	79	..	79
Logan	.....	960	11	971
Lorain	37,295	7,530	94	7,624
Main Line	600	126	1	127
Mansfield	28,824	5,746	146	5,892
Marion	28,591	7,004	51	7,055
Milan	696	235	11	246
Millersport	500	126	..	126
Monroeville	1,196	343	20	363
Mt. Gilead	2,800	647	17	664
Mt. Liberty	150	31	2	33
Newark	26,718	7,767	83	7,850
New Riegal	290	73	4	77
Norwalk	7,500	2,237	62	2,299
1674				
Pavonia	100	26	..	26
Plymouth	1,500	428	15	443
Polk	350	80	4	84
Rockbridge	350	177	17	194
Shelby	5,800	1,541	36	1,577
So. Amherst	1,000	154	4	158
Spencer	500	157	..	157
Stoutsville	400	115	6	121
Sugar Grove	450	128	7	135

Name.	Population.	Number consumers, commercial, industrial & miscellaneous. Domestic.		Total.
Sunbury	1,000	201	6	207
Sycamore	1,300	316	7	323
Thornville	900	223	1	224
Tiffin	15,000	4,005	64	4,069
Tiro	450	109	8	117
Union Furnace	300	68	..	68
Upper Sandusky	3,700	1,212	33	1,245
Utica	1,800	353	4	357
Wellington	2,500	696	9	705
Westerville	3,000	743	24	767
Williard	4,000	1,040	17	1,057
Total Supplied Direct	339,340	85,832	1,628	87,460

1675 Cities & Towns Served Through Other Companies.

Ohio.

Avery	200	....	..	40
Brookville	1,600	....	..	392
Castine	160	....	..	45
Dayton	175,000	....	..	35,747
Delaware	8,847	....	..	2,014
Eaton	3,500	....	..	823
Eldorado	360	....	..	120
Euphemia	275	....	..	50
Fairfield	325	....	..	116
Greenville	7,100	....	..	1,847
Jeromeville	350	....	..	166
Lancaster	18,000	....	..	261
New Madison	660	....	..	182
New Paris	960	....	..	249
Osborne	1,050	....	..	209
Sandusky	25,000	....	..	4,550
West Alexander	1,140	....	..	271
West Manchester	500	....	..	133
Yellow Springs	1,250	....	..	259
Total Other Co's— Ohio	246,817	....	..	52,020

1676 Indiana.

Name.	Population.	Number consumers, commercial, industrial & miscellaneous. Domestic.		Total.
Fairmont	1,800	....	..	263
Hartford City	6,000	....	..	489
Lynn	1,100	....	..	282
Muncie	36,000	....	..	6,126
New Castle	14,689	....	..	2,630
Richmond	30,000	....	..	6,442
Total—Indiana	89,589	....	..	16,232
Grand Total	675,946	....	..	155,712

Q. Mr. Whitcomb, can you give us any information with reference to the amount of gas that your company supplies to public buildings in municipalities or counties, to schools, churches, hospitals, or other like institutions in Ohio?

A. I can.

Q. Will you please do so?

A. I will.

(Witness reads as his answer the following:)

1677 The Logan Natural Gas & Fuel Company.

Gas Delivered for Public Use—1919.

	City purposes.	Public schools & colleges.	Hospitals.	State, federal and co. bldgs.	County homes.
	M cu. ft.	M cu. ft.	M cu. ft.	M cu. ft.	M cu. ft.
Amanda	679	102	....	....	....
Amherst	401	1,578	1,370	....	....
Ashland	2,056	2,901	2,248	....	504
Ash-Lorain Field	....	790	1,945	....	....
Ashville	55	27	....	....	....
Athens	1,099	10,401	5,816	1,239	1,196
Bellevue	....	708	....	....	....
Bellville	341	391	....	....	....
Berlin Heights	185	1,221	....	44	....
Bucyrus	2,613	1,571	1,158	....	2,288
Butler	79	108	....	....	....
Cardington	156	16	....	....	....
Carey	....	558	....	....	....
Centerburg	259	811	....	....	....
Chillicothe	745	3,118	971	....	....
Circleville	280	224	786	5,137	....
1678					
Clyde	....	114	....	....	....

	City purposes.	Public schools & colleges.	Hospitals.	State, federal and co. bldgs.	County homes.
	M cu. ft.	M cu. ft.	M cu. ft.	M cu. ft.	M cu. ft.
Crestline	....	....	....	....	....
Dover	45	....	....	....	....
Elyria	4,712	315	2,372	2,514	904
Findlay	....	....	....	....	....
Fostoria	525	1,967	....	....	....
Fremont	318	4,880	923	999	....
French Creek	....	....	....	....	....
Galion	....	1,847	773	....	....
Homer	....	....	....	....	....
Kingston	2,143	209	....	....	....
Lexington	....	5	....	....	....
Litchfield	....	....	....	....	....
Logan	....	....	....	510	....
Lorain	4,645	2,297	2,044	217	....
Mansfield	2,623	1,097	6,660	490	6,186
Marion	11,233	2,003	....	11,016	....
Milan	209	119	....	118	156
Monroeville	103	269	....	62	....
Mt. Gilead	....	311	....	603	....
Newark	4,964	1,316	1,003	2,291	....
New Riegel	396	107	....	....	....
1679					
Norwalk	1,318	921	783	1,588	2,831
Polk	500	203	....	....	....
Rockbridge	....	....	....	....	1,119
Shelby	1,145	674	....	....	....
Spencer	....	....	....	....	....
Stoutsville	....	76	....	....	....
Sugar Grove	569	42	....	....	....
Sycamore	2,068	....	....	....	....
Thornville	737	....	....	....	....
Tiffin	526	9,846	....	661	....
Tiro	488	23	....	....	....
Upper Sandusky	3,982	116	....	2,433	....
Wellington	6,367	....	....	....	....
Westerville	....	1,155	....	....	....
Williard	....	105	....	....	....
	58,564	54,542	28,852	29,922	15,184

1680 The Local Natural Gas & Fuel Company.

Principal State, County, and Municipal Consumers of Gas During Year 1919.

Ashland Colleges, Ashland, Ohio	1,390	M	Cubic	Feet
Samaritan Hospital, Ashland, Ohio	2,448	"	"	"
Amherst Hospital, Amherst, Ohio	1,370	"	"	"
State Hospital, Athens, Ohio	5,816	"	"	"
Ohio University, Athens, Ohio	10,088	"	"	"
County Infirmary, Bucyrus, Ohio	2,288	"	"	"
Court House, Jail, Bucyrus, Ohio	2,613	"	"	"
County Bldgs., Circleville, Ohio	5,137	"	"	"
City Hall, Elyria, Ohio	4,692	"	"	"
Memorial Building, Elyria, Ohio	2,372	"	"	"
County Court House, Elyria, Ohio	1,026	"	"	"
County Jail, Elyria, Ohio	1,485	"	"	"
Police Station and Hose Houses, Lorain, Ohio	4,539	"	"	"
St. Joseph Hospital, Lorain, Ohio	2,044	"	"	"
Ohio State Reformatory, Mansfield, Ohio	6,186	"	"	"
Memorial Building, Mansfield, Ohio	1,504	"	"	"
Mansfield Genl. Hospital, Mansfield, Ohio.	6,660	"	"	"

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City Fire Engines & Library, Mansfield, Ohio	1,119	M	Cubic	Feet
Garbage Plant, Marion, Ohio	4,945	"	"	"
City Buildings, Marion, Ohio	1,848	"	"	"
County Buildings, Marion, Ohio	10,974	"	"	"
Infirmary, Norwalk, Ohio	2,140	"	"	"
Court House, Norwalk, Ohio	1,512	"	"	"
City Buildings, Norwalk, Ohio	1,275	"	"	"
City Buildings, Newark, Ohio	4,964	"	"	"
Sanitarium, Newark, Ohio	1,003	"	"	"
Court House & Jail, Newark, Ohio	2,291	"	"	"
Schools & Colleges, Tiffin, Ohio	9,847	"	"	"
St. Lighting, Upper Sandusky, Ohio	3,983	"	"	"
Wyandot County Bldgs., Upper Sandusky, Ohio	2,433	"	"	"
Board of Public Affairs, Sycamore, Ohio.	2,068	"	"	"
Board of Public Affairs, Wellington, Ohio.	6,367	"	"	"
Total	118,427	"	"	"

1682 Q. The information you have just given us, Mr. Whitcomb, I note also includes the number of thousand cubic feet of gas furnished to each of the consumers mentioned by you in answer to my question?

A. It does.

Q. Mr. Whitcomb, I believe you stated awhile ago that at the time of the acquirement of many of the companies which you enumerated by the Union Natural Gas Corporation, there was a falling off in the gas supply in the fields in Ohio which had theretofore been supplying those companies, or words to that effect?

A. Yes.

Q. Now, will you go into that in a little more detail, and then describe how you have been able to maintain a gas supply to those consumers since their acquirement, if you have been so able?

A. At the time, or about the time, of the organization of the Union Natural Gas Corporation, there was a sharp decline in the fields in the northerly and northwesterly portions of Ohio, which obtained their gas principally from the limestone formation, known as the lime rock, with a sulphur base. The Sugar Grove field, in Fairfield County, was comparatively small. They had only
1683 been drilling there a few years—three or four or probably five—and were obtaining a supply from what is known as the Clinton sand or Clinton formation. Early in the spring and summer of 1902, the Logan Natural Gas & Fuel Company commenced active operations both in the field and in the extension of its lines. They developed a large volume of gas in the Clinton sands in Fairfield County, and in what is known as the Sugar Grove field. Later operations extended further north into Licking County, though a portion of that field had become partly exhausted, and later in the development in what is known as the Ashland and Lorain field, and following that, a development in the northerly part of the state in Lorain County, and extending east to near the City of Cleveland, and directly south through a portion of the state. During the period of this development, practically all of the limestone formation field in Seneca, Hancock, Wood and other counties in northern and northwestern Ohio had become practically exhausted. The Logan Natural Gas & Fuel Company extended its lines north from Sugar Grove to a point at Bangs station in Knox County. It installed a large compressing station at that point, and made further extensions of its lines north to Monroeville, with branch lines extending northeastwardly to Elyria
1684 and Lorain and northwestwardly from Monroeville to Fremont, Bellevue and Clyde, together with a line running directly north from Monroeville, to supply Sandusky in Erie County. Other branch lines were laid in 1903 westwardly from the main transmission lines, to supply service at Tiffin, Fostoria, Findlay, Carey, Upper Sandusky, Bucyrus and Marion. Lines were laid eastwardly from the main trunk line to supply Galion, Mansfield, Ashland and a number of smaller lines at a short distance supplying many of the smaller towns in that portion of the state. Newark had previous to the time of the organization of the Union Natural Gas Corporation acquired its principal supply from the local field in Licking County. As I have stated, in the latter part of 1902 there was not a sufficient volume of gas available in that field from that company to meet their requirements, and a line was laid by the Logan Natural Gas & Fuel Company from Sugar Grove com-

pressing station northeastwardly about twenty-five miles, to supply Newark. There were other extensions made and changes of construction from which a new line was laid to Chillicothe. As the Sugar Grove field began to decline, in about 1907 to 1910, additional compressing stations were installed by the Logan Natural Gas & Fuel Company in the northerly and central parts of
1685 the state, the principal one at the present time being located at Pavonia in the southwestern corner of Ashland County. As development progressed to the north and the pressures began to decline, it was necessary to instal another compressing station in that portion of the field, and a station was installed at a point near Avon, about five miles southeastwardly of Lorain, in Lorain County. During the period of these operations, a very large volume of gas was developed in the Sugar Grove, Home, Utica, Ashland, and Lorain fields. At one period, the Logan Natural Gas and Fuel Company had upwards of 750,000,000 open flow of gas. During that same period, operations were being carried on in West Virginia by the Reserve Gas Company, in order to meet the requirements under their leases, and a large volume of gas was developed, for which we had no market. In 1905, it became apparent that we must secure additional markets for West Virginia gas. A contract was entered into with the Central Contract & Finance Company, a New Jersey corporation, by which we agreed to take up and lift a 12 and 10-inch line formerly used for supplying gas to the City of Dayton, and running northwardly from the City of Dayton to Red Star, Ohio—I don't recall the county—and
1686 an extension from that to Red Key, Indiana, with further extensions into Indiana fields, which had become practically exhausted. The work of changing the construction was commenced in the early spring of 1905. The line was relaid from Dayton back towards our Sugar Grove compressing station. There was not, however, a sufficient amount of pipe that was usable to complete the line. We replaced 34,000 feet, approximately, on the Sugar Grove end, and several miles of 12-inch pipe at points between Mt. Sterling, Ohio, and Dayton, Ohio, and installed two miles, approximately, of 16-inch pipe, at the Dayton end of the line. This arrangement carried with it a contract to supply the City of Dayton with gas for a period of ten years. The volume was 10,000,000 cubic feet a day, maximum. At the time, nearing the expiration of the contract, it was apparent that the increased volume in West Virginia, and produced by the Logan Company in Ohio, made it necessary to seek additional markets, and a contract was entered into first with the Central Indiana Gas Company, at that time with distributing plants at Muncie, Anderson, Hartford City, Marion, Ellwood and Fairmont, and a number of other towns that I don't recall at the moment, and commencing in May, 1913, the work of constructing a line from Sugar Grove to Indiana points was
1687 commenced. An 18-inch line of approximately 84½ miles was laid from Sugar Grove to Dayton, and about 78 miles of 16-inch pipe from Dayton to Muncie, about 25 miles of 12-inch pipe from Muncie northwardly to Fairmont, at which point it con-

nected with transmission lines of the Central Indiana Gas Company supplying Marion, Hartford City, and one or two other places in that locality. Another line of about seventeen miles of 10-inch pipe was laid from Muncie to connect with their service at Anderson, and through that distributing plant or its connections they supplied some other towns beyond. A branch line of 8-inch pipe was laid in Indiana to New Castle, a distance of about twenty miles, and a line laid from near the westerly line of the State of Ohio, southwestwardly to the City of Richmond, of 10-inch pipe, and a number of smaller lines connected with distributing plants and the Jantha Light & Heat Company, the contracts having been made with the Central Indiana Gas Company, with the company supplying the Richmond consumers and at New Castle. But not until 1916 had they agreed upon the contract for the City of Dayton, though the contract had expired on July 1, 1915. There was no attempted agreement that we continue the service from
1688 month to month, pending the agreement, as to the principal contract which we entered into later. All of the contracts to which I have referred and all of the towns supplied on those lines contemplated the use of nothing but West Virginia gas. There was no provision—in fact, the contract stated that they were not entitled to gas produced in the state of Ohio. The Logan Natural Gas & Fuel Company completed those lines and extensions, and gas was turned into the City of Muncie on the 19th day of October, 1913. For three years or more, we gave them an excellent supply, in fact, more than they needed; but during the past two or three winters, it has been extremely short. The supply has been depleted to such an extent that the Central Indiana Gas Company, which during the first three or four years' period of the service were supplying natural gas to all of the consumers on their distributing systems, have been obliged within the last two years to distribute a mixed product, and they are using a portion of the West Virginia gas, with which we supply them, for that purpose.

Adjourned until Wednesday, September 15, 1920, at 10 o'clock, a. m.

ORIGINAL, #20 & #21.

October Term, 1920.

THE COMMONWEALTH OF PENNSYLVANIA

vs.

THE STATE OF WEST VIRGINIA.

THE STATE OF OHIO

vs.

THE STATE OF WEST VIRGINIA.

Proceedings of Wednesday, September 15, 1920.

1689 And now, Wednesday, September 15, 1920, at 10 o'clock A. M. hearing resumed.

EUGENE P. WHITCOMB resumed the stand.

Direct examination (continued).

Mr. Eagleson:

Q. Mr. Whitcomb, you spoke of an inaccuracy in your statement yesterday, in the absence of manuscript. Do you desire to correct that at this time?

A. Yes; I desire to correct the statement made yesterday, with reference to the name of the place on the line which was taken up and relaid, from Dayton to Sugar Grove. The point referred to I had given as Red Star; it should be North Star instead of Red Star. I also omitted to state that the City of Lancaster, in Fairfield County, Ohio, is wholly dependent on West Virginia gas for the gas which it receives from the Logan Natural Gas & Fuel Company.

Q. Right in that connection, Mr. Whitcomb, with reference to Lancaster and Dayton, and all the other Ohio municipalities
1690 which you spoke about yesterday, and including the Indiana consumers to whom West Virginia gas is exclusively supplied, if, for any reason, you were unable to furnish them West Virginia gas, would you have any other possible known source of supply of natural gas for them?

A. We have approximately two and a quarter million feet left in the old Sugar Grove field that would be available for distribution

at Sugar Grove. If there was no West Virginia gas delivered at that point, however, there wouldn't be a cubic foot of gas going through this 18-inch line——

Q. Which 18-inch line?

A. The 18-inch line supplying Dayton, the Jantha Light & Heat, and all the service now being supplied in Indiana, also including the City of Lancaster, in Fairfield County, Ohio. Now, as I have stated, there is approximately two and a quarter million feet of gas from the old field, or local field, available to the Logan Natural Gas & Fuel Company, which they are using at the present time.

Q. Where?

A. Distributing to these other towns. I was just about to say that the Logan Company owns its own distributing plant in Chillicothe and at Sugar Grove; and the Circleville plant, owned by the
1691 Buckeye Gas Company, being another subsidiary of the Union Natural Gas, is dependent altogether on the Logan Company for its sole supply. In addition to being obliged to discontinue the service altogether from these places mentioned, from the Sugar Grove-Dayton-Indiana lines, the City of Athens, in Athens County, Ohio, is entirely dependent upon West Virginia for its supply; the line being connected to the two 16-inch lines of the Connecting Gas Company, running from the Ohio River to Sugar Grove station. The two and a quarter million cubic feet, to which I have referred as being available in the Sugar Grove field, would be inadequate to supply the service at Circleville, Chillicothe, Sugar Grove and a few other smaller towns in that locality; in fact, there wouldn't be one-fifth of the amount which they require. And in view of the fact that all contracts on the line from Sugar Grove to Dayton and Indiana contemplate and provide for the delivery of West Virginia gas only, and specifically recite the fact that the Union Natural Gas Corporation has available a large quantity of gas in West Virginia, and that they are not entitled to Ohio gas, consequently that two and a quarter million which we have in the local field would not be available for any of that service.

Q. Do you mean by that reference to the contracts that your
1692 main line west from the Sugar Grove Station, out from Dayton, and on into Indiana, was originally constructed, primarily and exclusively, for the transportation and delivery of West Virginia gas.

Mr. Hoffheimer: That is objected to as calling for an opinion or conclusion from the witness.

The Commissioner: Note the objection and let the witness answer.

(Question repeated.)

A. The original line of 12- and 10-inch pipe removed from Red Key and North Star, and relaid from Dayton back to Sugar Grove station in 1905, was first contemplated for use exclusively of West Virginia gas. During the construction period, and about that time, the Logan Company developed a large volume of gas of their own, principally in Fairfield and Licking Counties, Ohio, and for a period of a number of years, the greater volume of gas that passed through

that line was Ohio gas. That contract expired in 1915. A new contract was made with the Dayton Gas Company, which pro-
1693 vided, as I stated, for the use of West Virginia gas only, and in 1913, in the early part of the year, contracts were made with the Central Indiana and other distributing companies within that state, which provided for West Virginia gas only; and as a matter of fact, for several years past, the only gas that has been passed through that line west from Sugar Grove is gas that has come through the Reserve and Connecting Companies' lines, delivered at Sugar Grove compressing station; with the exception, however, as I have stated, of about two and a quarter million of gas that is produced in the local field. I am speaking of the two and a quarter million as the volume available at this time; it was much greater in years past; in fact, the Sugar Grove field was at the beginning the principal source of supply.

Q. Now, Mr. Whitcomb, give us, if you can, the mileage in Ohio of your transmission lines.

A. As of June 30, the transmission of pipe lines of the Logan Natural Gas & Fuel Company was as follows:

1694 The Logan Natural Gas & Fuel Company.

Ohio and Indiana.

Transmission System Pipe Lines.

4 inch	71.70	miles
5 3/16 inch	8.13	"
5⅝ "	1.38	"
6 "	109.05	"
6⅝ "	2.57	"
8 "	158.61	"
10 "	148.87	"
12 "	130.41	"
16 "	161.76	"
18 "	84.37	"
Total Transmission Pipe Lines	876.82	"

And the production system pipe lines—that is, the field lines—are as follows:

1695 *Production System Pipe Lines.*

4	inch	148.94	miles
4¾	"	.80	"
4⅞	"	.17	"
5 3/16	"	10.65	"
5⅝	"	.61	"
6	"	121.97	"
6⅝	"	18.52	"
8	"	95.54	"
10	"	38.19	"
12	"	64.22	"
16	"	27.62	"
Total Production System Pipe Lines		527.23	"

Q. Now, Mr. Whitcomb, what has your company as to the number of wells, and location, and so on?

A. I have here a statement showing the number of wells drilled and purchased, also the unproductive wells, the total drilled and purchased, the gas wells abandoned and sold, and the total gas wells as of December 31, at the end of each of the ten years, 1910 to 1919, inclusive, which is as follows:

1696 The Logan Natural Gas and Fuel Company.

Gas Well Data.

Year.	Productive gas wells drilled and purchased.	Unproductive wells drilled.	Total wells drilled and purchased.	Gas wells abandoned and sold.	Total gas well as of Dec. 31.
1910	59	38	97	40	501
1911	64	22	97	70	495
1912	86	27	113	33	548
1913	92	28	120	42	598
1914	74	27	101	53	619
1915	119	27	146	37	701
1916	73	22	75	49	725
1917	100	45	145	79	746
1918	109	36	145	76	779
1919	54	46	100	76	757

Mr. Hoffheimer:

Q. As of what date did you give the pipe lines?

A. December 31. I wish to correct my statement,—I think I said June 30th; it is December 31st.

Q. 1919?
1697 A. 1919.

Mr. Eagleson:

Q. You mean at the end of the ten years or at the end of each year?

A. At the end of each year during the ten year period, 1910 to 1919, inclusive.

Q. What, if any, development have you, by any other subsidiary company, or by any other corporate entity or otherwise, than the Logan Natural Gas & Fuel Company?

A. No gas wells within the State of Ohio, excepting those owned by the Logan Natural Gas & Fuel Company.

Q. That is to say, you do all your developing under the name of the Logan Natural Gas & Fuel Company?

A. We do.

Q. And all of the transmission lines are owned by the Logan Natural Gas & Fuel Company, with but two exceptions?

Mr. Hoffheimer:

Q. Is that the same as to pipe lines?

A. Same as pipe lines, yes. The 10-inch line running from Findlay east to Seneca, near the southwest part of Seneca County, is owned by the Citizens Gas Light & Coke Company, the company distributing and owning the distributing plant at Findlay.
1698 In this connection, I should like to make another correction: I think that yesterday I indicated in my statement that that line was owned by the Logan Natural Gas Company. There is another correction: The line running northeastwardly of 8-inch and 6⅝-inch pipe from Circleville, connecting with 18-inch Sugar Grove-Dayton line at a point near the west line of Fairfield County, belongs to the Buckeye Gas Company. I believe I stated yesterday that that was a Logan line; it belongs to the Buckeye Gas Company, owning the distributing plant at Circleville in Pickaway County.

Mr. Eagleson:

Q. With reference to leaseholds, what is the fact as to whether or not all of the leaseholds taken or held in the interests of any or all of the companies the stock of which is owned by the Union Natural Gas Corporation, are so taken and held by the Logan Natural Gas and Fuel Company?

A. All of the leaseholds within the State of Ohio are first taken in the name of the Logan Natural Gas & Fuel Company, and the rental and royalty charges are paid by that company, but, as I stated, the Preston Oil Company, another underlying company of the
1699 Union Natural Gas Corporation, engaged exclusively in the production of oil and the manufacture of gasoline, has the right to acquire any leases on which oil may be developed by the Logan Company, and a number of leases of that character that have proven oil territory instead of gas, have been transferred to the Pres-

ton Oil Company. The Logan Company, however, does not forfeit its right to drill for gas on any lease, even though it has been transferred.

Q. Mr. Whitcomb, I wish you would go a little further into your relationship, by contract or otherwise, with the Reserve Gas Company, giving it from the earliest connection, and the reasons therefor, and such pertinent information concerning the same as you think proper.

A. The contract to which I referred yesterday, as of date June 20, 1902, having been acquired by Union Natural Gas Corporation from T. N. Barnsdall, on September 23, 1902, was effective during a period of a little over ten years. There were, however, during that period, a number of modifications and supplemental contracts entered into, until it became difficult to interpret the real meaning of the agreements, and on April 11, 1913, the original contract of June 20, 1902, was cancelled and annulled, together with a number of the supplemental contracts that had been made during that period. And a new contract was entered into between the
1700 parties at interest, on April 11, 1913, and it is the contract under which we are operating at this time.

Mr. Hoffheimer:

Q. Mr. Whitcomb, isn't the contract of April 11, 1913, to which you have referred, the same as Pennsylvania Exhibit No. 17, which has already been introduced in evidence, between the Reserve Gas Company, the Union Natural Gas Corporation, the Hope Natural Gas Company, the Connecting Gas Company and T. N. Barnsdall? (Handing copy of contract to witness.)

A. That is the one. The maximum deliveries under that contract contemplated 30,000,000,000 cubic feet per year, of which two-fifths, or 12,000,000,- was for Union Natural Gas Corporation, and Hope Natural Gas was entitled to three-fifths, or 18,000,000,000. The deliveries for the entire period, from 1904 to 1919, inclusive, by Reserve Gas Company to Union Natural Gas Corporation, are as follows:

1701 *Gas Delivered to Logan Natural Gas and Fuel Company by The Reserve Gas Company.*

Year.	Cu. ft.
1904	25,950,000
1905	289,156,000
1906	728,611,000
1907	1,736,293,000
1908	1,664,625,000
1909	2,396,911,000
1910	3,913,905,000
1911	5,149,454,000
1912	6,629,496,000
1913	9,625,476,000
1914	12,380,826,000
1915	11,305,384,000
1916	12,349,786,000
1917	12,810,749,000
1918	12,052,747,000
1919	9,623,343,000
Total	102,682,712,000

The agreement provided that it should be delivered each month on a percentage basis, to conform to the requirements of the domestic consumers during the different periods of the year, and the daily deliveries were fixed to comply with the table of percentages during the different months of the year, and are indicated as follows:

1702 *Amount of Gas The Union Natural Gas Corporation is Entitled to from The Reserve Gas Company on a Twelve-Million Basis per Annum.*

		Per month.	Per day.
January	12½%	1,500,000,000	48,387,000
February	12 "	1,440,000,000	51,428,000
March	11 "	1,320,000,000	42,581,000
April	8½ "	1,020,000,000	34,000,000
May	7½ "	900,000,000	29,032,000
June	4¾ "	570,000,000	19,000,000
July	4½ "	540,000,000	17,420,000
August	4½ "	540,000,000	17,420,000
September	4¾ "	570,000,000	19,000,000
October	7½ "	900,000,000	29,032,000
November	10½ "	1,260,000,000	42,000,000
December	12 "	1,440,000,000	46,451,000
Total	100 "	12,000,000,000	

Q. Now, what is the fact as to whether or not you received each year from the Reserve Gas Company the amount of gas which your contract called for?

A. We have received in some years the amount of gas to which we were entitled, but it was not received during the period
1702-*a* of the year when it was most needed, and in order to get our entire quota or volume of gas, it was necessary, during some of the years, that we take an excess during the summer months. During the years 1914 to 1918, inclusive, we received the full amount to which we were entitled, but as I have stated, we were obliged to take it during the summer months all of those years, with the exception of two, in order to take the full amount to which we were entitled. During the year 1919, however, we were 2,400,000,000, approximately, short of the amount to which we were entitled, by reason of inability of the Reserve Gas Company to make the deliveries. I might explain further, that the period, the year, under the Reserve contract, begins on November 1st and ends on October 31; that it is not the calendar year.

Q. Then there are years under this contract in which you, for the twelve month period you refer to, received the proportionate amount of gas called for by the contract, by reason of the fact that in the summer months you received an excess of gas, and in the winter months less than that called for by the contract?

A. Yes, sir. To illustrate, the month of February——

Q. What year?

A. Feburary, 1920. Under the schedule contained in
1702-*b* the agreement, we were entitled—that is, the Union was entitled—to 49,655,000 cubic feet per day, or a total of 1,439,995,000 for the month. The amount that we actually received during the month of February, 1920, was 828,189,000, and for the twenty-nine day period there was a net deficit of 611,806,000 cubic feet, or 42.5 per cent deficit. Now, if you will take the month of July, 1920, under the schedule of daily deliveries, as indicated by the agreement, Union was entitled to 17,420,000 per day, or a total of 540,020,000 for the month. We actually received during that month 721,371,000, or a net excess for the thirty-one day period of 181,350,000, or 33.6 per cent. excess.

Q. Now you refer to the shortage of supply or deficit of 42.5 per cent, under the contract requirement in February, 1920?

A. Yes, sir.

Q. What effect, if any, did that have on your ability to supply your consumers?

A. We were unable to furnish an adequate supply, and as a matter of fact the consumers, principally at Dayton and all distributing points in Indiana, were nearly out of gas at the time. The same condition prevailed the previous winter.

1703 Q. That would be during the cold periods of the year?

A. During the cold period, yes, sir.

Q. And state, Mr. Whitcomb, whether or not you were restricting your gas supply to any one or more class or classes of consumers, or whether you were trying to supply all demands of all people?

A. We were trying, in so far as possible, to make an equal distribution of the gas.

Q. I don't believe you understand my question. I mean, were

you, during the season of February, 1920, trying to supply both industrial and domestic gas, or were you restricting it to any class of consumers?

A. We hadn't an industrial consumer on our entire system during the period; they were all shut off, for we hadn't an ample supply to meet the needs of the domestics.

Q. During the winter of 1919-20, state whether or not you attempted to supply any industrial gas to your consumers?

A. We did not.

Q. Do you know what time you quit trying to supply them, or shut off the supply to industrial consumers?

A. As near as I can remember, we commenced discontinuing industrials about the 10th or 15th of October.

Q. That would be 1919?

1704 A. 1909, yes.

Q. And state whether or not you kept industrials off your lines entirely during the entire winter season of 1919-20?

A. There were no industrial consumers on our lines during the entire winter season of 1919-20.

Q. Do you have anything to add further to your answer in reference to my question relative to the Reserve Company?

A. Well, I might give you the cost of the Reserve stock.

Q. Go ahead.

A. The investment in stock of Reserve Gas Company and Connecting Gas Company by Union Natural Gas Corporation during the period from December 31, 1902. to December 31, 1914, both years inclusive, amounted to $3,650,000, of which amount $1,250,000 was paid in cash for stock of Reserve Gas Company and 15,000 shares of the par value of $100 per share of the stock of the Union Natural Gas Corporation. And for Connecting Gas Company's stock, $400,000 was paid in cash and 5,000 shares of stock of the par value of $100, in addition to the cash payment. Placing the stock on the par value, the total paid for stock in both Connecting and Reserve Gas Companies was $3,650,000. The Union Natural Gas Corporation paid during the period from the time of issuing the stock—or

1705 exchanging the stock, rather, for the stock of the Reserve and Connecting Gas Companies—dividends on that stock to the total amount of $3,320,000, and the interest on cash payments after that made a total of $4,179,113.74, or a total of $7,829,113.74, from which may be deducted dividends received from the Reserve and Connecting Gas Companies, to the amount of $3,119,840.50, leaving a net cost to Union for stock in Reserve and Connecting Companies of $4,709,273.24.

I wish to state, in connection with the statement just made with reference to the dividends, that the Reserve Gas Company paid no dividends until 1914——

Mr. Weil:

Q. From what year?

A. From the beginning.

Q. That is, what date?
A. Well, I don't recall the date.
Q. Well, the date of your acquisition.
A. Oh, from the date?
Q. From the date of your acquisition.
A. From the day of the organization of the Reserve Gas Company?
Q. Well, that was in 1907? I want to get the year.
1706 A. No, it was organized in 1902.
Q. From 1902, then, until 1914?
A. Until 1914, a period of twelve years.

Mr. Eagleson:

Q. The first twelve years no dividends were paid by the Reserve Gas Company?
A. By the Reserve Gas Company. The Connecting Gas Company, however, commenced paying dividends in 1907, but they were small until 1914, when the larger volume of West Virginia gas was taken through the lines for distribution at Indiana and Dayton. May I make a correction or addition with reference to the Logan contract?
Q. Yes.
A. I stated that the contracts with distributing companies at Dayton and Indiana contemplated the delivery of West Virginia gas only. I neglected to state, however, that the Logan Natural Gas & Fuel Company reserved the right in those contracts to a proportionate amount of that gas for use in their own distributing plants in Central and Northern Ohio, and they have exercised that right during the past year or more, in so far as supplying gas to the City of Newark.
Q. Have you at hand the record of dividends paid and not
1707 paid by the Reserve Company and Connecting Company?
A. I have.
Q. Will you please give it?
A. (Reading):

Dividends Received from Reserve Gas Co. and Connecting Gas Co.

Union Natural Gas Corporation.

	Reserve Gas Co.		Connecting Gas Co.		Total.
	Per cent.	Amount.	Per cent.	Amount.	Amount.
1907	.....	.....	14½%	$59,788.00	$59,788.00
1908	.....	.....	10½ "	43,302.00	43,302.00
1909	.....	.....	9½ "	38,170.00	39,178.00
1911	.....	.....	8½ "	35,054.00	35,054.00
1912	.....	.....	13 "	53,612.00	53,612.00
1914	17½%	$308,420.00	87 "	427,663.00	736,083.00
1915	13½ "	269,986.50	28 "	181,972.00	451,958.50
1916	16 "	319,984.00	26 "	168,974.00	488,958.00
1917	15 "	299,985.00	15 "	97,485.00	397,470.00
1918	15 "	299,985.00	23 "	149,477.00	449,462.00
1919	15 "	299,985.00	10 "	64,990.00	364,975.00
Total		$1,798,345.50		$1,321,495.00	$3,119,840.50

Q. Now, with reference to the gas under your contract for Dayton and the Western Ohio and Indiana lines, which you
1708 had the right to and did draw from, to supply Newark and perhaps other places, state whether or not, with that, in addition to your supply of gas obtained from the Ohio field, you had an adequate supply of gas during the winter seasons for your domestic consumers?

A. We had not.

Q. Can you give us briefly the extent to which you were unable to supply your domestic consumers, when serving them exclusively in the cold periods?

A. During the winter period, the six months beginning November 1, 1919, and ending April 30, 1920, in the Northern Division of our distributing system—I am speaking now with reference to the distributing plants of all the affiliated companies or underlying companies——

Mr. Blue:

Q. Including the Logan or exclusive of the Logan?

A. All of the companies, including the Logan and all underlying distributing companies of the Union Natural Gas Corporation—that is, I refer at this time to the pressure on the distributing systems of all underlying companies of Union Natural Gas Corporation operating within the State of Ohio, and being supplied by the Logan Natural Gas & Fuel Company, the Logan Natural Gas &
1709 Fuel Company being the producing, transmission and supplying company to all of its own consumers and other underlying companies of the Union Natural Gas Corporation within the State of Ohio.

In the Northern Division of our distributing system, covering the period from November, 1919, to April, 1920, both months inclusive——

Mr. Eagleson:

Q. Describe right there what your Northern Division is.

A. The Northern Division comprises the service of distributing plants, north of Ashland, Mansfield and Bucyrus.

Mr. Blue:

Q. And includes what?

A. And includes principally Elyria and Lorain——

Mr. Eagleson:

Q. The consumers in what counties will be sufficient.

A. And includes consumers in Lorain, Erie, Huron, Seneca, Sandusky, Hancock, Wyandot and Crawford Counties, also Ashland. The pressure of the distributing—or low pressure system in
1710 the Northern Division, during the month of November, 1919, ranged from 2 to 4 ounces—there were 600 hours during that

month that the pressure was within that range. There were 21 hours that it was from 2 ounces to a point near zero. The percentage of 4 ounce and better was 13¾ per cent, 2 to 4 ounces, 83⅓ per cent, and 2 ounce to zero was .21 per cent.

During the month of December, 1919, there were but two hours during the entire period that the pressure was above 4 ounces. There — 430 hours in that time that the pressure was 2 to 4 ounces. And there were 211 hours that the pressure was from 2 ounces to as low as zero. I wish to state that the observations from which the pressure charts are made were taken at 6 a. m., 12 o'clock noon, 6 p. m. and 12 midnight.

In the month of January, 1920, there were no hours, there was no time when the pressure was above 4 ounces. There were 198 hours that it was below 4 ounces and above 2. There were 546 hours that the pressure was from 2 ounces down to as low as zero.

In February, there was no period when the pressure was above 4 ounces. There were 261 hours that it was below 4 ounces and above 2. And there were 435 hours that it was from 2 to zero. Or 37½ per cent of 2 to 4 ounces, and 62½ per cent that it was under 2.

1711 In March there was no time when it was above 4. There were 365 hours that it was below 4 and above 2 ounces; 579 hours that it was less than 2, on down to zero. The percentage of low pressure, or 2 down to zero, was 77 4/5 per cent, and 22½ per cent from 2 to 4 ounces.

In April, there was no period that it was above 4. There were 405 hours of pressure ranging from 2 to 4 ounces, 267 hours that it ranged from zero to 2. The percentage of 4 ounces and above 2 was 60¼ per cent, and 39¾ per cent, 2 ounces and lower.

Now, that is the condition of the Northern Division, as I stated.

Mr. Blue:

Q. Where is the gas produced that furnishes this Northern Division about which you have just been speaking?

A. All within the State of Ohio.

Q. Principally where?

A. Principally from Lorain, Medina, Ashland, Wayne and Richland Counties.

Mr. Eagleson:

Q. Now proceed to your next division.

1712 A. The Central Division comprises the distributing plants located principally in the counties of Richland, Lorain, Morrow, Delaware, Licking and Franklin.

During the period of November, 1919, there were 633 hours in which the average pressure of the low pressure distributing systems was 4 ounces and above. There were 90 hours that it was below 4 and above 2. There was no period that it was below 2.

In December, 1919, there were 40 hours of 4 ounces and over,

592 hours of 2 to 4 ounce pressure, and 112 hours that it was below 2 ounces.

In January, 1920, there was no period that it was above 4 ounces. There were 491 hours that it was from 4 to 2 ounces, and 253 hours from 2 ounces to zero. The percentage of 2 to 4 was 66 per cent, and the percentage of 2 to zero was 34 per cent.

In February, 1920, there were 491 hours that the pressure was from 4 to 2 ounces, 205 hours when it was 2 ounces to zero. The percentage of 2 to 4 ounce pressure being 70½ per cent, and from 2 to zero, 29½ per cent.

In March there was no period that it was above 4. 558 hours from 4 to 2 ounces, 186 hours from 2 ounces to zero, or 75 per cent of 4 to 2 ounce pressure, and 25 per cent of 2 to
1713 zero.

In April there were 474 hours of 4 to 2 ounces, and 246 hours of 2 ounces to zero, or 65 5/6 per cent of 4 ounce pressure, and 14 1/6 per cent of 2 ounce pressure.

Q. Now, where does the gas come from that supplies that division —the middle division, as described?

A. The Middle Division is all supplied from Ohio, but principally from wells in Richland, Knox, Licking, Holmes and Wayne Counties.

Q. Now, your next division.

A. The next division is the Southern Division, comprising the counties of Fairfield, Pickaway, Hocking, Ross and Athens, with its principal supply coming from West Virginia.

During the period of November, 1919, there were 648 hours that it was 4 ounces and above, 72 hours that it was 4 to 2 ounces; or 90 and 10 per cent.

In December, 1919, there were 140 hours of 4 ounces and over, 544 hours of 4 to 2, and 12 hours of 2 to zero; or a percentage of 20.1, 78.1 and 1.8.

In January, 1920, there were 55 hours that it was 4 ounces and over, 663 hours of 2 to 4 ounces, and 26 hours of 2 to zero; with a percentage of 7 1/5, 89 3/5 and 3 1/5.

1714 In February, 1920, there were 45 hours of 4 ounces and above, 642 hours of 2 to 4 ounces, 9 hours of 2 ounces to zero; with a percentage of 7, 91 3/5 and 1 2/5.

March, 1920, 40 hours of 4 ounces and above, 704 hours of 4 to 2 ounces; there was no period when the pressure was below 2 ounces; percentage, 5 1/3 and 94 2/3.

In April, 1920, 50 hours of 4 ounces and above, 670 hours of 2 to 4 ounces, and no period below 2 ounces. Percentage 6.9 and 93.1.

As I have stated, the pressure on the lower division during the period referred to has been more uniform and higher pressure and a better service than we were enabled to give to the towns in the Central and Northern Divisions. And nearly all this gas, with the exception of approximately two and a quarter millions coming from the local field, was supplied by West Virginia.

Q. What local field?

A. That is, the old Sugar Grove field.
Q. In what counties?
A. Fairfield and Perry Counties.

Q. Now, during the months to which you have just re-
1715 ferred, with reference to your Ohio consumers, as found in the three divisions referred to, state whether or not you were limiting your distribution to the class designated as domestic consumers, and whether or not you were delivering into your lines all the available gas possible both from Ohio fields and that obtainable from the Reserve field in West Virginia?

A. As I have before stated, we had no industrial consumers on our lines during that period. We were using every effort possible to render service to the consumers in all portions of the field, and also endeavoring to make as equal a distribution as possible as to pressure and volume, to the different cities and towns comprising the system.

Q. Is your system of transportation lines so connected or interrelated that in case of a shortage of gas from any field that you may have in one of the three divisions, can you transfer gas from another division to that one, to help out?

A. The transmission—or the main or larger transmission lines pass through all the fields. We can regulate the supply by cramping the gates against the towns nearest the compressing stations and carrying a larger pressure to the points farthest away. We
1716 have some lines through which the gas may be closed, and the gas driven in either direction, though the principal main trunk lines running north, the gas flows only in one direction.

Q. Then your pipe line systems in Ohio, as a whole, are one unit, are they?

A. Practically one unit; they are all connected.

Q. And the division of your system into the Northern, Central and Southern is for what primary purpose?

A. More for the Operating Department, as a matter of convenience in classifying data and operations pertaining to the lines, fields and wells.

Q. Your company, in all respects, in Ohio, is subject to and obedient to the orders, regulations and rules of the Public Utilities Commission of the State of Ohio, the same as other companies concerning which testimony has been heretofore given in this case?

A. It is.

Q. Now, Mr. Whitcomb, to what extent has your company's lines been designed and constructed and are being maintained for the purpose of receiving and marketing West Virginia gas?

Mr. Hoffheimer: That question is objected to as calling
1717 for an opinion or conclusion of the witness, as incompetent, irrelevant and immaterial; also as repetition.

The Commissioner: Note the objection and take the answer.

A. The construction of the 16-inch line north from Sugar Grove connecting with the intake of Bangs compressing station in Knox County, Ohio, was laid exclusively for the use and transportation

of West Virginia gas to our Central and Northern Divisions. The construction of the 18-inch Sugar Grove–Dayton line, a distance of about 84½ miles to the City of Dayton, with an extension of about 78 miles of 16-inch line to the City of Muncie, Indiana, together with its branch line connections to cities and towns in the State of Ohio and the State of Indiana, principally the City of Dayton, in Montgomery County, Ohio; the City of Anderson, in Madison County, Indiana; New Castle, in Henry County, Indiana; Richmond, in Wayne County, Indiana; and Greenville, in Darke County, Indiana, was laid particularly for that purpose, and for no other.

Mr. Eagleson:

Q. And what other lines or connections or investment of
1718 any kind has been made by your company—or companies, as you refer to them—because of the obtaining and marketing of West Virginia gas?

Mr. Hoffheimer: Same objection.
The Commissioner: Note the objection and take the answer.

A. The Sugar Grove compressing station was installed for the distribution or the compression of gas produced both in Ohio and in West Virginia; at the time of the laying of the 18-inch Sugar Grove-Dayton line, in 1913, the station was very materially increased as to capacity, in order to take care of the increased volume of gas from West Virginia, to drive it on to Dayton and to points in Indiana. We have no other compressing station on that line, a distance of approximately 182 miles from the extreme points of the line. The service supplying Chillicothe and Circleville, at the period of the first installation of this compressing plant, was being supplied from the local fields. Athens, in Athens County, received its supply from lines running south from Sugar Grove, supplying Logan and Athens. After the increased volume was obtained through
1719 the Connecting Company's line, a connection was made from the town of Athens to that line, and the line formerly connecting Athens, running southeastwardly from Sugar Grove was taken up, removed. There is no other connection to Athens now, with the exception of the line from the Connecting Company's lines. All of this Sugar Grove Station is used at the present time—or, rather, in the winter months, whenever necessary—for West Virginia gas, with the exception, however, of about two and a quarter million cubic feet of gas that is produced in the local fields.

Q. What would be the effect upon your distributing system, upon your ability or inability to supply your Ohio and Indiana consumers, if you were, for any reason, denied gas from West Virginia?

A. It would ruin and demoralize the service in our entire Southern Division, with the exception of the two and a quarter million of gas available in local fields. There would be absolutely no gas whatever passing through the line west of Sugar Grove Compressing Station supplying the city of Dayton, the city of Muncie, Richmond, New Castle, and other cities and towns in Ohio and Indiana. We

would have no service whatever, or no supply to deliver to the city of Lancaster, in Fairfield County. The city of Newark, in Licking County, would be substantially out of gas, although there is a very small volume that might be obtained in the local field, but it
1720 would be entirely insufficient to meet the needs of the consumers. It would make practically no difference with our Central and Northern distributing plants, as the gas supplied to them is produced wholly in the State of Ohio, and from counties in the northern and north central part of the State.

Q. Now, Mr. Whitcomb, if, for any reason, the gas from West Virginia as received by your companies were to be diverted or required for use in West Virginia for domestic and industrial uses, or for the use of the public, or any part of the public, for any use whatsoever, what would be the effect upon your consumers in Ohio and Indiana, on your ability to supply them with natural gas?

A. It would cause a shortage of gas to all of the consumers supplied by our lines running west from Sugar Grove, the lines running north to Newark and Lancaster, and lines to Circleville, Chillicothe and Athens, and other smaller places, to the extent of whatever amount was reduced in deliveries at Sugar Grove. If the volume were to entirely cease, or the deliveries, it would mean that practically all of that service would be out of commission, with the exception of so far as two and a quarter million cubic feet of gas might go to supply a great many thousand consumers.

Q. How far would it go?

A. It wouldn't go any beyond Sugar Grove Station, because we are not entitled to it. We would supply our own plants there so far as we could, but I don't think it would be more than one-
1721 fifth of the volume required.

Q. What would be the effect upon your distribution system, and your supply to your company, if, for any reason, the supply from West Virginia would become intermittent and irregular, sometimes—to illustrate—coming as it is now under your contract and then again being substantially denied to you?

A. It would probably result in the loss of all of the service under the contracts to which I have referred, by reason of being unable to give them a continuous supply. They would probably discontinue the use of natural gas altogether.

Q. What effect would that have upon consumers which your own companies are now supplying with West Virginia gas?

A. They would probably become so dissatisfied with the service that we would very likely be obliged to discontinue the small service that we have been able to give.

Q. And what would be the effect upon your domestic consumers in Ohio, and to what extent, if, under the authority of the Act in controversy, the Public Service Commission of West Virginia would, by order or otherwise, cause the diversion of the gas which your company now receives from West Virginia to consumers in West Virginia, to be consumed for domestic and industrial purposes for the public, or any part of the public, and for all purposes for which natural gas might be used, in West Virginia?

Mr. Hoffheimer: That is objected to, on the grounds
1722 stated in objections to similar questions propounded to other witnesses.

The Commissioner: Note the objection and take the answer.

A. I assume that, under such condition, we would receive no gas at Sugar Grove, which, as I have stated, would demoralize the entire service of our Southern Division and render the investment, lines, compressing stations and distributing plants of very little value. The value of large transmission lines at this period is not so great as it was a few years ago; there is not the demand. I doubt if there is any of the natural gas fields in the Appalachian District but what has at least fifty per cent more transportation capacity than the volume of gas which they have to deliver at the present time necessitates, and nobody wants to buy big lines, to lay them where they are not going to get gas, and I don't know where they are going to get it.

Mr. Eagleson:

Q. What about the expense of taking up pipe lines of the kind you have just been describing?

A. I don't know that I am just prepared at this time to give you an estimate of the cost per mile of lifting those lines.

Q. Do those lines you have been describing extend through agri-
cultural country, where the surface is valuable, which would
1723 therefore incur considerable damage to surface land in the removal of those pipes?

A. It would. All of these lines extending west and north from Sugar Grove pass through a highly developed agricultural district, valuable farms, and it would incur considerable damage to remove them.

Q. Then, under the circumstances which you have described, in view of the nature of the territory, the farming vicinities through which these lines extend, the cost of labor and other pertinent items, including transportation, would it or would it not be a question of whether or not you would be justified in attempting to take up those lines when you no longer have gas to transport through them, as they now are?

Mr. Hoffheimer: That is objected to, as calling for an opinion or conclusion of the witness, and as incompetent, irrelevant and immaterial.

The Commissioner: Note the objection.

A. I feel that we would hardly be justified under existing conditions to attempt to remove those lines, unless it might be that there would be a purchaser for the large sized pipe, for which, in my opinion, the chances are very remote at this period. The
1724 question of transportation, conveying that line to another point, at this period would be almost out of the question. I don't think it could possibly be done.

Logan Natural Gas & Fuel Company and Affiliated Ohio Gas Companies.

Summary of Investment for Delivery of Gas from West Virginia.

Pipe Lines to Towns of Other Companies:

Line No.	From—	To—		Physical property.	Overhead charges.	Cost of attaching business.	Total.
E	Sugar Grove	Muncie, Indiana	16 and 18"	$1,996,783.89	$439,292.44	$243,607.63	$2,679,683.96
E- 7.	Line E South	Dayton	12"	22,524.66	4,955.43	2,748.01	30,228.10
E- 8.	" " "	"	10"	19,404.91	4,269.08	2,367.40	26,041.39
E- 9.	" "	Richmond	10"	93,885.11	20,654.73	11,453.98	125,993.82
E-10.	" "	New Castle	8"	82,752.99	18,205.65	10,095.87	111,054.51
E-11.	" "	Anderson	10"	137.354.13	30,217.92	16,757.21	184,329.26
E-12.	" "	"	8"	12,043.61	2,649.50	1,469.32	16,162.52
E-13.	" "	Fairmont	12"	192,202.37	42,284.52	23,448.69	257,935.58
E-14.	" E-13	North of Fairmont	10"	17,699.20	3,893.82	2,159.30	23,752.32
E-17.	" E	Ohio Fuel Company	8"	179.43	39.47	21.89	240.79
E-18.	" E-13	Private Line	10"	69.79	15.35	8.51	93.65
E- 5.	" E	Mt. Sterling, Ohio	10 and 12"	14,962.54	3,291.76	1,825.43	20,079.73
E-19.	Sugar Grove Sta.	Line E		991.88	218.22	121.01	1,331.11
E-20.	" " "	" "		991.89	218.22	121.01	1,331.12
		Total		$2,591,846.40	$570,206.20	$316,205.26	$3,478,257.86

1727 Pipe Lines to Own Towns:

Line No.	From—	To—		Physical property.	Overhead charges.	Cost of attaching business.	Total.
E- 2.	Line E	Amanda, Ohio	2"	47.64	10.48	5.81	63.93
E- 4.	"	Ashville, "	3"	4,391.96	966.23	535.82	5,894.01
E- 3.	"	Circleville, Ohio		51,708.16	11.375.80	6,308.40	69,392.36
C	Sugar Grove	Chillicothe	8"	238,828.31	52,542.23	29,137.05	320,507.59
C- 2.	Line C	Logan	6 and 8"	52,857.14	11,628.57	6,448.57	70,934.28
C- 3.	"	Rockbridge	2 and 3"	548.97	120.77	66.97	736.71
C- 4.	"	Laurelville	2"	1,037.25	228.20	126.55	1,392.00
C- 5.	"	Adelphia	2"	748.95	164.77	91.37	1,005.09
C- 6.	"	Kingston	3"	12,233.80	2,691.44	1,492.52	16,417.76
C- 7.	" C-6	Hallsville	2"	30.07	6.62	3.67	40.36
C- 8.	" C-2	Logan Regulator		28.15	6.18	3.43	37.76
M	Gloucester	Beaumont	6"	62,245.72	13,694.06	7,593.98	83,533.76
M- 2.	Line M	Athens	3"	3,827.82	842.12	466.99	5,136.93
M- 3.	"	Chauncey	2"	74.21	16.33	9.06	99.60
A	Sugar Grove	Newark Connection	16"	339,474.41	74,684.37	41,415.88	455,574.66
A- 4.	A-6	Newark, Ohio	8"	5,813.19	1,278.90	709.21	7,801.30
A- 5.	"	" "	6"	5,215.00	1,147.30	636.23	6,998.53
A- 6.	Line A Toward	Newark	10"	33,986.61	7,477.05	4,146.37	45,610.03
		Total		$813,097.36	$178,881.42	$99,197.88	$1,091,176.66
Sugar Grove Compressing Station				$549,071.00	$120,795.62	$66,986.66	$736,853.28

Q. Can you give us an estimate, or the exact value, of your investments made by reason of the fact that you have received and are receiving West Virginia gas?

Mr. Hoffheimer: That is objected to, as incompetent, irrelevant and immaterial, and as having no bearing upon the issues in this case.

The Commissioner: Note the objection and take the answer.

A. The total investment in pipe lines to towns of other companies is $3,478,250.86; in the pipe lines to our own towns—or, rather, the towns in which we own the distributing plants—$1,091,176.66; in the Sugar Grove Compressing Station, $736,853.28; and in our distributing plants which are distributing West Virginia gas, $1,214,966.28; or a total of $6,521,254.08.

Mr. Eagleson:

Q. Have you made a summary of the cost of your pipe lines to towns of other companies and to your own towns—a summary of investment for delivery of gas from West Virginia, including
1725 physical property, overhead charges, cost of attaching business; distribution plants, covering the same items as mentioned with reference to the pipe lines?

A. I have.

Q. Will you please give it to us?

Mr. Hoffheimer: That is objected to, on the grounds stated in the last objection; and the defendant moves to strike out all testimony of this witness in answer to this and the preceding questions in which it is assumed that the investment was made for the purpose of transporting or supplying West Virginia gas.

The Commissioner: Note the objection and the motion, and take the answer.

A. (Reading:)

(Here follows Summary of Investment for Delivery of Gas from West Virginia, marked pages 1726 and 1727.)

1728

Distribution plants.	Physical property.	Overhead charges.	Cost of attaching business.	Total.
Amanda	$10,328.00	$2,272.16	$1,260.02	$13,860.18
Ashville	11,960.00	2,631.20	1,459.12	16,050.32
Adelphi	5,842.00	1,285.24	712.72	7,839.96
Athens	103,993.00	22,878.46	12,687.15	139,558.61
Chauncey	6,510.00	1,432.20	794.22	8,736.42
Circleville	119,896.00	26,377.12	14,627.30	160,900.42
Chillicothe	179,817.00	39,559.74	21,937.68	241,314.42
Hallsville	3,603.00	792.66	439.57	4,835.23
Kingston	13,323.00	2,931.06	1,625.40	17,879.46
Laurelville	6,540.00	1,438.80	797.88	8,776.68
Logan	46,929.00	10,324.38	5,725.34	62,978.72
Newark	380,266.00	83,658.52	46,392.45	510,316.97
Rockbridge	4,218.00	927.96	514.60	5,660.56
Stoutsville	6,651.00	1,463.22	811.42	8,925.64
Sugar Grove	5,464.00	1,202.08	666.61	7,332.69
Total	$905,340.00	$199,174.80	$110,451.48	$1,214,966.28

1729

Summary.

Lines to Other Co's.	$2,591,846.40	$570,206.20	$316,205.26	$3,478,257.86
Lines to Own Towns	813,097.36	178,881.42	99,197.88	1,091,176.66
Sugar Grove Comp. Sta.	549,071.00	120,795.62	66,986.66	736,853.28
Own Towns	905,340.00	199,174.80	110,451.48	1,214,966.28
Total	$4,859,354.76	$1,069,058.04	$592,841.28	$6,521,254.08

Mr. Eagleson:

Q. Now, Mr. Whitcomb, is this summary which you have just submitted limited to expenditures having to do with West Virginia gas exclusively?

A. As West Virginia gas is used at the present time, with the exception, however, of the distribution of approximately two and a quarter million cubic feet of gas that is produced by the Logan Company in its local fields.

Q. That is, the two and a quarter million cubic feet that you frequently referred to as being down in——

A. Fairfield County, in the Sugar Grove field.

Q. Mr. Whitcomb, you have given us the investment made by your company for the purpose of serving consumers with
1730 West Virginia gas, and the cost of West Virginia gas. Now, I want to ask you: If, for any reason, you were denied a supply of gas from West Virginia, what would be your financial loss because thereof?

Mr. Hoffheimer: That is objected to in so far as the question involves the assumption that the investment was made for the purpose of supplying West Virginia gas or in relation to West Virginia gas; as incompetent, irrelevant and immaterial, and as involving an unjustified conclusion; and in so far as it relates to financial loss, as incompetent, irrelevant and immaterial, and as having no bearing upon the issues in this case.

The Commissioner: Note the objection and let the witness answer.

A. It would be approximately the total value of the compressing plants, pipe lines and distributing systems, less whatever might be obtained in the way of junk value, or if sold as second-hand material, providing a purchaser could be obtained.

Q. You have spoken, Mr. Whitcomb, of consumers of your system being supplied in whole or in part by West Virginia gas,
1731 or what might be designated as the West Virginia end of your business; do you know how many such consumers you have?

A. The total number of consumers supplied by West Virginia gas in cities and towns supplied by Logan Natural Gas & Fuel Company——

Q. That is, both directly and indirectly.

A. Both directly and indirectly—A population of 364,949, of which there are 17,213 domestic consumers, 299 commercial, industrial and miscellaneous, or a total of 17,512 consumers on the lines of the Logan and other affiliated companies' distributing system. In the cities and towns served through other companies, there is a population of 212,620, with 45,250 consumers. This data refers to the State of Ohio. In Indiana there is a population of 89,589, with 16,232 consumers. Or a total population served by Logan Company in both Ohio and Indiana, with West Virginia gas, of 364,949, and 78,994 consumers.

Mr. Eagleson: I offer in evidence Ohio Exhibit No. 10, in connection with the testimony of the witness.

Cross-examination.

Mr. Blue:

Q. Which of the underlying subsidiary distributing companies did the Union Natural Gas Corporation first acquire?

1732 A. The Logan Natural Gas & Fuel Company, the Newark Natural Gas & Fuel Company, the Buckeye Gas Company, and the Athens Gas, Light & Electric Company.

Q. Where was the Logan Company operating at that time, and what line was its operation?

A. Their principal leaseholds and wells and operations were in Fairfield County, Ohio. They were supplying gas to the towns of Logan and Sugar Grove, and an 8-inch line was laid early in that period north to increase the supply and requirements of the city of Newark, in Licking County. There were several other smaller towns in that vicinity, which I do not recall at this time.

Q. For how many years had the Logan Natural Gas Company been operating before your company acquired it?

A. I think they had been operating about four or five years. They were a very small company, with a capital stock of about $40,000. Their service was limited, I believe, to the towns of Logan and Sugar Grove and two or three other smaller places in that vicinity.

Q. How long had the Athens Gas Company been operating before your company acquired it?

A. I don't know, I imagine probably two or three years.

Q. There was a distributing plant as well as a producing field feeding that plant, and along into the Athens Gas Company,

1733 for some time before your company acquired the Athens Gas Company?

A. They had a small line extending into the Logan field, from which they obtained a small volume of gas from what is known as the Berea Sand formation, which was later abandoned, exhausted.

Q. How long had the Newark been operating before you acquired it?

A. I am unable to tell the exact time. I would imagine two or three years, or possibly longer. Their source of supply was obtained in the vicinity of Newark, in Licking County, Ohio. As I recall, they had a line of 4 inches in diameter, that was wholly insufficient to meet the requirements of all of the people in the city of Newark, and, as I have stated, the Logan Company extended their 8-inch line north soon after the Union Natural Gas Corporation acquired the stock in 1902.

Q. But to put it in short and in a question: These underlying companies were both producing and distributing gas throughout all of the counties shown on your map—(Ohio Exhibit No. 10)—for some time prior to the acquisition of them by your company—Is that right?

A. No, it is not.

Q. Wherein is it not right?

1734 A. They didn't extend out of Fairfield and Licking Counties, and Pickaway and Ross. You said all of the counties referred to on our map. They had no lines extending north of Newark.

Q. Well, I think you didn't catch my question. The distributing companies in the Counties of Sandusky, Erie, Lorain, Ashland, Crawford, Marion, Richland, Morrow, Delaware and Licking were all engaged in the gas business, both producing and distributing, before your company acquired them, were they not?

A. They were not. Many of those distributing plants were installed through the Logan Natural Gas & Fuel Company.

Q. Well, to make it clear on the record then: How many of the companies acquired by your company, the Union Natural Gas Corporation, were engaged in the production, transportation and sale of natural gas for some time prior to their acquisition by your company?

A. The Citizens Gas, Light & Coke Company, distributing at Findlay, in Hancock County, Ohio, owned their line, and, if I remember correctly, about fifty wells in the field. They were nearly exhausted, however, at that time. The Marion Gas Company had a natural gas distributing plant which had formerly been supplied by the Northwestern Natural Gas Company, as I remember.

1735 They had a line through northwestern Ohio, with the principal distributing point at Toledo, but their field was practically exhausted. They had no wells of their own. The Citizens Gas Light & Electric Company, owning the distributing plant at Elyria and Lorain, were artificial gas distributing plants; they had no wells or no transmission lines. The Bellevue Gas Company and the Freemont Electric Light & Power Company, located in Sandusky County, Ohio, had no wells, or no field lines. The Freemont had, several years before, been a natural gas distributing plant and, as I recall, was one of the distributing plants of the Northwestern Natural Gas Company, which I have referred to as having lines extending northwest to supply Cleveland. The Newark Natural Gas & Fuel Company was a distributing plant located at Newark, Ohio, and, as I recall, had wells in Licking County in the vicinity of Newark, and I believe had been supplying service to consumers for three or four years, or maybe longer—I am uncertain as to the period. The same condition prevailed as to the Logan Natural Gas & Fuel Company, located at Logan. The Athens Gas Light & Electric Company had a few small wells near the town in what was known as the Berea Sand formation, and, as I remember, a number of 4-inch lines extending from the town connected up to those wells. They were in use I don't know how many years, but some time before its having been

1736 acquired by the Logan Company. The Buckeye Gas Company at Circleville owned its distributing plant, but I don't recall of their having any wells or leases in the field. They were being supplied at the time we purchased—at the time the Union

acquired the interest—by the Logan Natural Gas & Fuel Company. The large number of the distributing plants in the Northern and Central Divisions were installed by Logan Natural Gas & Fuel Company, beginning in June or July, 1902. One of the larger installations was at Mansfield, which at this time is located near the center portion of the Gas-producing area in that section of the State, but up to the time we installed its distributing plant had never had natural gas. And the same condition prevailed with reference to many of these other towns in that section of the State. Tiffin, or, rather, Fostoria, I believe, and Tiffin had for a time a supply that was obtained locally, from the Northwestern Gas Company—I am not certain as to that; in fact, I have no data, only from memory, that would indicate the conditions prior to the acquiring of the stock by Union Natural Gas Corporation.

Q. Just one question, Mr. Whitcomb: The plants acquired by your company were put into operation for the production of gas in Ohio and the distribution of gas produced in Ohio—isn't that right?

A. The plants in the Northern Division were, and in the
1737 Central Division south probably as far as Newark. However, it was contemplated at the time of the purchase of the stock of the four underlying companies in Ohio, about June 1st or 2d, 1902, that West Virginia gas was to be taken to Sugar Grove.

Q. But you haven't answered my question directly. My question was this: Weren't the plants acquired by your company, and the companies owning those plants, organized for the purpose of producing gas in Ohio and distributing gas produced in Ohio, in the localities where they were located?

A. Not altogether, because we contemplated——

Q. I am not asking you about after you got the properties, I am asking you about the properties before you acquired them, and the ownership of the properties before you acquired them.

A. Yes, they were.

Q. They were wholly independent——

A. Yes.

Q. —of looking forward to getting gas from West Virginia?

A. Yes, sir. I didn't understand your question.

A recess was here taken until 1:30 o'clock P. M.

1738 Wednesday Afternoon, September 15, 1920.

And now, the hour of 1:30 P. M. having arrived, parties met pursuant to adjournment.

EUGENE P. WHITCOMB resumes the stand.

Cross-examination (continued).

Mr. Blue:

Q. You have stated on your direct examination the situation of your consumers in the Northern Division of your Union Natural Gas Company, and you have also stated the source of supply for such consumers. Just in a short general way, what proportion of gas do you have and deliver to the consumers of your Northern Division—what proportion of the amount supplied in Ohio?

Mr. Weil: Do you mean including the Southern Division?
Mr. Blue: No, just the Northern.

A. I don't believe I would be able to give you that data without compiling it from our records.

Mr. Weil: Do you mean, what proportion or what amount?
1739 Mr. Blue: I mean, what proportion.

A. I wouldn't attempt to answer the question without getting the data from our records.

Mr. Blue:

Q. The consumers of the Middle and Northern Divisions of your Union Natural Gas Company are furnished with gas produced entirely in the State of Ohio?

A. They are, at the present time.

Q. What proportion of the requirements of your consumers in the Northern and Middle Divisions—I mean, what proportion of the gas requirements in those two divisions does your company furnish to your consumers?

A. I am not able to give you that information without the data from our records.

Q. Do you have enough gas, produced in the State of Ohio, to furnish to your consumers in the Middle and Northern Divisions all their requirements?

A. Not in the winter period.

Q. How much in quantity or in proportion would you say that your company is lacking in its supply of gas in those two divisions, to furnish its consumers?

A. A statement compiled as of September 15, 1919, in-
1740 dicating the requirements of our entire distributing system in Ohio, indicated that the requirements were 72,546,153

cubic feet per day; that we had available for that service 50,782,310 feet; approximately 22,000,000 short of the required amount; that is, daily requirements. That covered the requirements of 84,354, domestic consumers.

Q. Now the figures you have just given relate to your entire system, including the consumers in the State of Indiana?

A. No, not Indiana. This is just Ohio.

Q. Did that include your consumers along the line of the Logan Company, from Sugar Grove west to the Indiana-Ohio line?

A. We have no consumers of our own on the Indiana line, with the exception of the ones supplied from the connection to the 18-inch line west of Sugar Grove, supplying Circleville. It covers all of the other service.

Q. To get at it specifically, what territory or what part of your system is it that you are short 22,000,000 feet a day, in order to give the service and meet the requirements of your customers?

A. In all of the distributing plants owned by the Logan Natural Gas & Fuel Company and others of the underlying companies of the Union Natural Gas Corporation, located within the State of Ohio.

Q. Is that 22,000,000 feet shortage inclusive or exclusive
1741 of gas that you get from West Virginia? In other words, is the gas that you get from West Virginia included in the figures from which you reach the conclusion that you are 22,000,000 feet short daily?

A. Yes, it includes some West Virginia gas, in so far as they supply Newark.

Q. How much of the West Virginia gas is included in the figures from which you reach the conclusion that there is a shortage of 22,000,000 feet daily?

A. I am unable to answer the question without the data from our records.

Q. Can you approximate it?

A. I could only make a guess of three to five million a day. I don't know whether that is correct or not.

Q. Guessing at it, taking that, and for the purposes of the question then, you are using what gas you get from West Virginia—about three to five million feet daily—which you take through the line running north out of Sugar Grove?

A. Yes, and in addition to that the distribution plants at Circleville, Chillicothe and Athens.

Q. Did Chillicothe have a gas service before your company acquired the several underlying companies now owned by it?
1742 A. I believe it had a service from the local natural gas from Chillicothe; I am not sure as to the extent of the amount.

Q. Circleville had the same?

A. We are speaking of Circleville.

Q. I was asking about Chillicothe.

A. I don't recall that Chillicothe had any service of natural gas. It may have had; I am not familiar with conditions prior to the purchase of the stock by the Union Natural Gas Corporation.

Q. To make it clear, if it has not been made clear, what communities were the Logan Natural Gas & Fuel Company serving at the time you acquired it?

A. The town of Logan, Sugar Grove, I think it had a line to Nelsonville south of Sugar Grove, and Rockbridge, and one or two smaller places in that locality.

Q. And it was getting its gas from the wells in Ohio and none from West Virginia?

A. None from West Virginia at that time; principally from Fairfield County, in Ohio.

Q. In fact, when you acquired all of those underlying companies in the communities being served, all of them and each of them was being served wholly with gas produced and transported and distributed in the State of Ohio?

1743 A. Wherever service was being given them, it was all produced in the State of Ohio at the time we acquired the companies. I am speaking of the four companies that were acquired in June, 1902.

Q. Now, going back over your statement, your underlying companies or your Union Natural Gas Corporation, whichever way you may want to state it, is short approximately 22,000,000 feet of gas daily in meeting the requirements of your consumers in the State of Ohio?

A. This is an estimate prepared as of September 15, 1919, and that was the condition as of that date, as applied to domestic consumers only.

Q. What have you to say as to your industrial consumers, if you have any, as to the quantity you are short in supplying your industrial as well as your domestic consumers?

A. We are carrying no industrial consumers during the six winter months or the winter period. We supply gas to a number of industrial consumers during the summer months when we have a surplus available for that purpose.

Q. Can you state the quantity of gas, during the last year,—say for the calendar year ending December 31, 1919,—that your company furnished to industrial consumers in the State of Ohio

1744 and the State of Indiana, if you furnished any in the latter state?

A. I am unable to state the amount furnished in Indiana. We supplied the gas at wholesale at those plants.

Q. Part of that gas so supplied and distributed in Indiana is used for industrial purposes, is it not?

A. I am not sure as to that. A portion of it is, I believe.

Q. However, will you now give us the amount of gas consumed by industrial consumers in the State of Ohio—that is, all gas that you produce in Ohio?

A. I have a statement showing the distribution of gas furnished direct to consumers and classified as to domestic and commercial, industrial and other consumers, by years, covering the period 1910 to 1919, inclusive, which is as follows:

1745 *The Logan Natural Gas and Fuel Company Gas Sales.*

Furnished Direct to Consumers.

Domestic Consumption.

Year.	Number consumers.	Average M cu. ft. per consumer.	Total M cu. ft.	Per cent.
1910	63,027	111.3	7,014,026	.5833
1911	64,588	105.2	6,796,025	.6077
1912	69,168	110	7,608,030	.5009
1913	74,354	103.2	7,607,602	.4873
1914	74,268	106.8	7,931,181	.4997
1915	76,437	104.2	7,964,715	.5697
1916	80,482	107.5	8,650,950	.5418
1917	82,725	124.2	10,275,363	.6341
1918	83,306	112.2	9,344,203	.6785
1919	85,832	103.6	8,895,399	.6618

1746 Commercial, Industrial and Other Consumption.

Year.	Number consumers.	Average M cu. ft. per consumer.	Total M cu. ft.	Per cent.
1910	2,226	2,250.7	5,010,001	.4167
1911	2,029	3,248	6,590,139	.4923
1912	2,074	3,655.7	7,581,975	.4991
1913	2,388	3,351.1	8,002,544	.5127
1914	2,696	2,945.1	7,940,097	.5003
1915	2,627	2,289.8	6,015,231	.4303
1916	1,640	5,461.1	7,316,271	.4582
1917	1,873	3,165	5,928,056	.3659
1918	1,602	2,751.3	4,427,557	.3215
1919	1,628	2,791.8	4,545,050	.3382

1747 Total Consumption.

Year.	Number consumers.	Total M cu. ft.	Furnished to other companies M cu. ft. Ohio and Indiana.	Grand total furnished M cu. ft.
1910....	65,253	12,024,027	3,783,432	15,807,459
1911....	66,617	13,386,164	3,537,558	16,923,722
1912....	71,242	15,190,005	4,181,889	19,371,894
1913....	76,742	15,610,146	4,333,130	19,943,276
1914....	76,964	15,871,278	6,268,065	22,139,343
1915....	79,064	13,979,946	6,363,556	20,343,502
1916....	82,122	15,967,221	8,476,395	24,443,616
1917....	84,598	16,203,419	10,891,841	27,095,260
1918....	84,908	13,771,760	8,981,685	22,753,445
1919....	87,460	13,440,449	8,112,315	21,552,764

Q. To get into the record specifically and in one place for convenience, as I understand, the table you furnish, it shows something to this effect: Among other things, that you furnish to domestic consumers 8,895,399,000 cubic feet, to commercial, industrial and other consumption, 4,545,050,000 feet, and to other companies in
1748 Ohio and Indiana, 8,112,315,000 cubic feet, a grand total of 21,552,764,000, the figures used being for the year 1919. Is such understanding of your statement correct?

A. It is.

Q. How much of the 4,545,050,000 feet would you say was used in the year 1919, for industrial purposes, using that word "industrial" independently of the service to commercial and other consumption?

A. I am unable to answer that, although the term "Commercial and other consumption" is largely industrial. It may include many small consumers, such as bakeries, greenhouses and public buildings, which are classed and termed "commercial consumers."

Q. To what companies does your statement refer, under the heading of "Amounts furnished to other Companies in Ohio and Indiana"?

A. It refers to gas for which the Logan Natural Gas & Fuel Company, or other underlying companies of the Union Natural Gas Corporation, do not own the distributing system.

Q. Where was the 21,552,764,000 cubic feet of gas produced?

A. In Ohio and West Virginia.

1749 Q. The quantities then that you procured from the Reserve or through the Connecting Company is included in that amount?

A. It is.

Q. From the figures you have given, you have an approximate shortage of 30 per cent of the requirements of your consumers. How long has that condition existed?

A. Approximately for a period of the past three years. It may vary some from that—more or less, during the different winter periods of the past three years.

Q. What brought about that condition?

A. The decline in the fields.

Q. Decline in what fields?

A. In Ohio and West Virginia.

Q. Wherein have you been affected by a decline in the field of West Virginia, and to what extent?

A. In the winter months for the past three winters or more, we have been unable to get the total amount under our contract, by reason of their inability to supply it.

Q. Why is that inability to supply you gas from the West Virginia field?

A. They haven't sufficient volume. There was a decline in rock pressure; the transmission lines and compressing power was
1750 there to handle it, but they hadn't the volume of gas.

Q. Has that been brought about through natural causes?

A. It has been brought about by its use through our lines and

the lines of the Hope Natural Gas and other companies. That is the natural decline and depletion of the field.

Q. That shortage then to you from the West Virginia fields has come about from the natural decline of the gas in the West Virginia field?

A. It has—and in the Ohio fields.

Q. Has that decline in the fields of West Virginia been peculiar, or has there been any unusual experience of those engaged in the gas business?

A. It has not; it has been the inevitable result in all gas fields of which I have any knowledge.

Q. Now, with this 22,000,000 foot daily shortage of your requirements, how much of your 22,000,000 feet shortage is reflected in the shortage of gas from the West Virginia fields?

A. I don't think I am prepared to answer that. It would probably be in the same proportion as the whole volume of gas bears to the West Virginia field—that is, Ohio and West Virginia combined.

Q. What is that proportion, from your knowledge of the
1751 quantity produced and purchased?

A. Well, in the year 1919, the Reserve Gas Company were short in their deliveries to the Union Natural Gas Corporation of about 2,400,000,000. For four or five years previous to that, they had been delivering approximately the entire amount of gas under their contract. This would indicate that approximately 22½ per cent is the decline from the amount to which we are entitled.

Q. Where is the most acute shortage for your supply, for your consumers, I mean? Where is the most acute situation for your consumers, in respect of their requirements?

A. For the last three winters, the most acute condition has been in the Northern Division, principally at the extreme ends of the long lines in towns such as Fremont, Fostoria, Tiffin, Findlay, Elyria, and Lorain, all located in the Northern Division.

Q. Do they get their supply of gas entirely from the gas fields of Ohio?

A. They have for the past three or four years. Previous to that time, they were getting some West Virginia gas.

Q. But the acute situation that your company faces is in respect to its consumers in the Northern Division supplied entirely
1752 for the last two or three years by gas from the fields of Ohio?

A. It is; the same condition, however, has prevailed with reference to the shortage in Indiana, at Dayton and other points along the Sugar Grove-Dayton-Indiana transmission lines delivering West Virginia gas.

Q. What is the situation with respect to the Middle Division of your Union Natural Gas Corporation? How does it compare with the situation in the Northern and Southern Divisions?

A. There has not been such a marked shortage in the Middle Division as there has been in the north, due largely to the fact that they are located close to the local supply in the Ohio field.

Q. How does the Middle Division of your field, as to its situation, with its consumers, compare with the Southern Division?

A. During the winter period last past, the Southern Division did

not experience the extreme or acute conditions that prevailed in either of the two northerly divisions.

Q. Both of which divisions, the Northern and the Middle, depend upon the gas as you take it entirely from the field in Ohio?

A. Yes.

1753 Q. Your lines are so connected that you can use the West Virginia gas and deliver it to the consumers in the Middle Division and also to consumers in the Northern Division. Is that right?

A. That is right, if we have sufficient volume to deliver to them.

Q. Why didn't you use some of this gas from the fields of West Virginia to relieve that acute situation in the Middle and Northern Divisions?

A. For the reason that an even worse condition prevailed in the distributing plants of the Central Indiana Gas Company and of the Dayton Gas Company and other distributors of the West Virginia gas, taking their supply off from the Logan Natural Gas & Fuel Company's main transmission lines, and any extension was inadvisable. There was a more acute condition prevailing in many of the Indiana towns than there was in the towns of Ohio, and in fact they have found it necessary to discontinue the strictly natural gas service, and are using a portion of the natural gas for a mixed product, and I am informed that some of their towns are off the lines altogether.

Q. I understood you to say a moment ago that the situation was more acute in your Northern and Middle Divisions than in your Southern Division during the winter to which you

1754 referred.

A. It is. The Indiana and Western Ohio and Dayton locality is not in either one of those divisions. We are the wholesalers of the gas to the distributors and the classifications by the three divisions, Northern, Central and Southern, applies only to the Ohio fields of the Logan Natural Gas & Fuel Company and other underlying companies, and does not cover any of the distributors that we are supplying wholesale.

Q. Do those distributors that you are supplying by wholesale have a right by contract to the West Virginia gas?

A. They have, and they have no right to any other gas. They have no right to Ohio gas under their contracts.

Q. Who are the parties to that contract?

A. There are a number of contracts all made by the Logan Natural Gas & Fuel Company with different distributing companies or interests.

Q. Will you please state the names of the contracting parties to those contracts?

A. The Central Indiana Gas Company, located at Muncie, Indiana, the Dayton Gas Company, of Dayton, Ohio, the Richmond Light, Heat & Power Company—I think that is the correct name—owning a distributing plant at Richmond, Indiana, and the Interstate Public Service Corporation, owning a distributing plant

1755 at New Castle, Indiana, and the Jantha Light, Heat & Fuel Company, owning a number of small distributing plants in

the Western part of the State of Ohio, including Greenville, Eaton, and eight or ten other small places, and the Lynn Gas Company, owning a distributing plant at Lynn, Indiana.

Q. Those contracts were severally made by the Logan Company with the several companies named by you?

A. They were.

Q. About when?

A. Nearly all of them were made during the year 1913.

Q. And do they in express terms provide that the gas to be delivered by the Logan Natural Gas & Fuel Company is to be gas from West Virginia?

A. They do.

Q. Do those contracts forbid the Logan Natural Gas & Fuel Company and your company, the Union Natural Gas Corporation, delivering any of the West Virginia gas into the central or middle and northern divisions of your territory?

A. They do not; in fact, they recite the fact that the Logan Natural Gas & Fuel Company owns distributing plants of its own in the State of Ohio, and in the event of the diminution of
1756 supply, are entitled to a proportionate part of the gas.

Q. Do those contracts, on the other hand, forbid the Logan Natural Gas & Fuel Company, or provide that the Logan Natural Gas & Fuel Company shall not be required to deliver any gas under the contracts, when the gas is produced in the State of Ohio?

A. They do not, and as a matter of fact we have at different times turned Ohio gas into the Indiana state line at Sugar Grove station, to meet the peak load requirements under emergency conditions, although that condition has not prevailed during the past one or two years.

Q. Is there any provision in those contracts between the Logan Natural Gas & Fuel Company and the several distributing companies named by you, with respect to the distribution of gas as among themselves, or the right of priority in case of shortage?

A. There is no right of priority. I believe that there is a provision that there will be an equal distribution so far as it is in our power to bring that about. That is, of course, based upon the number of their domestic consumers.

Q. On your direct examination, you said something to the effect that no gas other than West Virginia gas should be delivered either to or by the Logan Natural Gas & Fuel Company. We are not sure which you said, or just what you meant by that state-
1757 ment. I wish you would make it clear just what you had in mind when you made the statement to that effect?

A. I recall having made a statement to the effect that in the event of the discontinuance of the supply of West Virginia gas at Sugar Grove, that the Logan Natural Gas & Fuel Company would deliver no gas through the Sugar Grove-Dayton-Indiana line; that there would be no gas available for that service.

Q. You mean by that statement that in the event the Logan Natural Gas & Fuel Company, or your Union Natural Gas Corporation receives no gas from West Virginia, that then your gas in Ohio

shall not be required to be delivered for transportation to the lines west of the Sugar Grove station?

A. No, it would not; we would not have a sufficient volume of gas in Ohio to meet the requirements or wants of our consumers. In the Southern Division, many of those distributing plants would necessarily be entirely deprived of a natural gas service. As I have stated, there is approximately only two and a quarter millions of gas available for that entire system, if West Virginia gas would be discontinued.

Q. Are you able to furnish to the several companies the
1758 amounts contracted for delivery to them by the Logan Natural Gas & Fuel Company? I mean, the companies that you named, to whom you agreed to deliver gas west of Sugar Grove?

A. We are not and have not been for the past four or five years. Our contract with the City of Dayton contemplates a sufficient volume for universal service, and we have been unable to give them an adequate supply. In fact, there has been a great shortage in Dayton during the past.

Q. How much is that shortage from the amount that you agreed to supply?

A. Well, I estimate their requirements at approximately thirty to thirty-five million cubic feet a day, to meet their full requirements.

Q. That would mean how much a year that you are short?

A. I am speaking of the peak load condition during the winter service. That condition might not prevail all the time. That would indicate, on the basis of a requirement of 35,000,00 cubic feet a day under peak load conditions, a volume of 1,260,000,000 for the year, which is largely in excess of the amount required; 35,000,000 a day is so in excess of the average amount that they would need for the entire year.

1759 Q. How much are you short in Dayton, would you say, based upon your experience, for a year's deliveries, which you ought to deliver but do not deliver?

A. We have thought that Dayton could get along fairly well with twenty-five to twenty-eight million cubic feet a day in the extremely cold weather. The average maximum which we have been able to deliver to them in the past three or four winters has rarely exceeded 24,000,000.

Q. You never did have enough gas to supply Dayton under their contract conditions?

A. Yes, we had it. They had put about 11,000 artificial gas consumers on, and they were not prepared to receive the full volume of gas at the time when we had it to deliver to them.

Q. That was not within the last three or four years?

A. No.

Q. Within the last three or four years you have not had enough gas to furnish Dayton with its requirements?

A. We have not had enough to furnish gas for the requirements of any of our distributors along that line in the past three or four years.

Q. How did that come about?

A. We were unable to get the volume of gas in the winter
1760 months that we had in years before, and the natural growth of cities and towns and converting of a number of artificial gas consumers to the use of natural gas, all within a period of a year and a half, in the City of Dayton, and the same condition prevailing in the distributing plants of the Indiana companies, brought about that condition.

Q. You mean these thousands of artificial gas users turned natural gas into their houses, instead of using artificial gas?

A. Yes; and not only that, there was a campaign inaugurated throughout that section four or five years ago, in an effort to increase the service and induce the consumers to instal furnaces, and a great many gas heating furnaces were put on in Dayton and a great many distributing plants along that line, which brought about the change in condition.

Q. You have always been short and you are short now, in furnishing your quota of gas to Richmond, New Castle and the other towns named in your contracts?

A. No; from 1913 to 1917, we had an ample supply to meet their full requirements.

Q. What brought about the changed conditions, so that they became short of gas?

1761 A. Increased number of consumers and depletion of the field.

Q. Then you have this sort of a situation on hand: The number of your consumers has been increased at a time when your supply has been decreasing. Is that right?

A. That is correct.

Q. And that has brought about this situation that you refer to?

A. It has.

Q. Now there is no remedy known to you, and to the men engaged in the gas business, to overcome this natural decline in the gas supply, is there?

A. Not unless we may develop new fields. The number of consumers may be lessened. The Central Indiana Company, which during the winter period of 1913-14 and 1914-15 and 1915-16 were supplying all of their consumers with their full requirements, have since converted a number of their distributing plants to the use of a mixed gas.

Q. Now, taking up your answer, let me ask you, is your company trying to find new gas fields?

A. We are using every means and every effort to locate or develop new fields within the State of Ohio. We are at the present time running all the tools that we own, so far as we are able to obtain drillers and tool dressers to operate them. There is hardly
1762 a period in the year that we are not operating in undeveloped territory, in hopes of finding a new source of supply. The same condition prevails in West Virginia with the Reserve Gas Company. A large acreage was taken up and some deep wells drilled in that country, but with no success, and the leases have since been abandoned and surrendered. The Logan Natural Gas and Fuel

Company at the present time is carrying approximately 550,000 acres of undeveloped leaseholds within the State of Ohio, and we are constantly endeavoring to find a new source of supply. Last year, in our efforts to do so, we drilled, I think, forty-five dry holes. I may not be correct as to that number.

Q. Now, with all of your efforts and the efforts of those engaged in the gas business, isn't it your experience and your knowledge, and the experience of others, that the decline in the supply of natural gas is greater than the amounts you are finding *is greater than the amounts you are finding* in your new explorations?

A. Well, I don't know that it is greater, but it is probably equal to the increased supply.

Q. Well, take the State of Ohio. Isn't it true that the
1763 natural decline in your supply of gas is greater than the quantity that you are finding in your new explorations?

A. That is true, and will apply to certain periods of the years during the term of our operations in Ohio; but there have been times that we have met with success and developed new fields that the new volume of gas was largely in excess of the decline in the old fields.

Q. Was the total production for Ohio last year—that is, for the Calendar year ending December 31, 1919, greater or less than the production for the preceding year?

A. I am unable to answer that question only so far as it relates to our own company.

Q. As to your own company, what is your experience?

A. Very little change.

Q. So far as that change was, whatever it was, was it a decrease in the supply or an increase?

A. I think there was a slight decrease, although at the present time the volume of gas produced by new wells, or rather the new gas developed by new wells, is somewhat in excess of the operations of last year at this period of the year.

Q. Is it not true that you and others engaged in the gas business of Ohio recognize that the demand upon the supply in the state is very much greater than the supply?

A. It is.

1764 Q. Do you not further recognize that the supply of that state is of very limited duration?

A. We feel that that is true.

Q. And that the gas in Ohio is being rapidly exhausted, and will within a short time be completely so?

A. Well, I am unprepared to express an opinion. I have had experience with some of the older fields that continued producing for many years after the first decline was noticeable. I refer more particularly to some of the older fields in Pennsylvania, where we have wells on the line at the present time that have been in continuous service for upwards of twenty-five years. It was noticeable fifteen years ago that there was a decline both in volume and rock pressure. The wells, of course, are very small and it would not pay to drill for such wells at the present cost of material and labor.

Q. Take the fields in the northern part of Ohio, up in your northern division. Are they not about exhausted?

A. In some portions of the Northern Division, particularly the development west of Cleveland that was drilled three or four years ago, there is, I am told, indications that it is very nearly exhausted. The wells were drilled very close together, and a great number of them on a small area, although the wells of our company in the northern part of the state, in the Dover district—approxi-
1765 mately fifteen or twenty miles west of the West Park district of Cleveland—have been in use for five or six years, or longer. They are not drilled so close together as the development west of Cleveland, and the decline has not been so rapid. The wells owned by our interests nearest exhausted, many of them having been already pulled out, are located principally in the old Sugar Grove field, that is, in Fairfield, and the southerly part of Licking County, Ohio, and many of the wells in the southern part of Knox and northern part of Licking Counties which have been exhausted have been abandoned. The wells in the northern part of the state, owned by our company—principally in Ashland, Richland, Lorain, Wayne and Holmes Counties, are comparatively new wells and that at the present time is our principal source of supply from the Ohio wells.

Q. What part of the demand of your consumers, in your Northern Division, where you say the shortage is most acute, does your company supply to your consumers?

A. I don't think I understand the question.

Q. I will ask it this way: You have stated that the most acute situation is in the Northern District; you have further stated that approximately the figures show that you are short about 30
1766 per cent in furnishing the requirement of your consumers. Localizing it, what part of your consumers is your company supplying in the Northern Division?

A. Well, we are meeting their full requirements in the summer months or the warmer periods, but we are unable to do so in the winter periods.

Q. Now, if there is the gas to supply your consumers in the state of Ohio, why doesn't your company do sufficient drilling to have a supply, so that the requirements of your consumers will be met?

A. As I have stated, we are running all the tools available. Or rather, we are unable to get sufficient labor, such as drillers and tool dressers, to run our entire equipment, although we are running at the present time approximately twenty-five strings of tools.

Q. Well, is the gas there, if you are able to run enough strings of tools, so as to enable you to furnish your consumers with the required amount of gas?

A. I don't believe it is. We have nearly exhausted our efforts in the past of finding it, and unless it may prevail in some portion of the undeveloped territory, (and as I have stated, we are constantly drilling in undeveloped territory—wildcat wells, as they term it)

it is about exhausted. It is the exception when we don't find
1767 a dry hole or a well so small that it is unprofitable to connect up with the lines.

Q. Now, finding these dry holes and these small wells indicates to your mind as a practical man in the gas business, that the supply of gas is nearing its exhaustion; is that right?

A. I believe it is.

Mr. Eagleson: May I suggest that in this connection the witness might state the cost of the drilling of a well.

The Witness:

A. As of 1910, during that period, a deep well in the Clinton sand cost approximately $5,500 to $6,500, shot, tubed and connected to the line. At the present time, it costs all the way from $12,000 to $15,000, due to the increased cost of material and labor. During the early period, one well would produce as great a volume of gas as three do at the present time, and at more than double the cost of drilling. It is equivalent to drilling six wells to get the production of one, as compared with the period six to ten years ago. I think there is no denying the fact that there is ample evi-
1768 dence of a decline in all of the known fields. It looks as though we were nearing the end of it. There may be some hope in conservation, but I feel that the beginning of the end is in sight.

Mr. Blue:

Q. Are you acquainted, or were you acquainted, with the gas fields of Indiana, when Indiana had gas fields?

A. I have no knowledge of conditions in Indiana, other than when that field became exhausted we bought some secondhand pipe.

Q. What I had in mind, in asking you that question was: There was a time when Indiana had large producing gas fields, but which fields now are and have been for some years exhausted?

A. That is the fact. The same condition prevailed in northwestern Ohio, and there was an enormous volume of gas produced in Henry, Wood and some of the other counties in that section of the state that are entirely exhausted now. There is no gas produced in that section of the state that I know of at this time from the limestone formation.

Q. Were any of those cities, Anderson and others stated by you during your examination, formerly supplied by gas produced
1769 in Indiana?

A. They were.

Q. And all of which is now exhausted, or substantially so?

A. Substantially that is true.

Q. Isn't that the same condition that is confronting you in the State of Ohio?

A. It is, though it may be prolonged for a number of years by proper conservation of the supply.

Q. The same condition is bound to arise in every gas field that is drilled and developed, is it not?

A. I believe so.

Q. Can you state the number or approximate number of additional consumers that your contracts made in the name of the Logan Natural Gas & Fuel Company, with the several wholesale or distributing companies added to your previous number of consumers?

A. You mean, including the City of Dayton?

Q. Yes, including the City of Dayton and the towns and cities of Indiana?

A. I would say approximately sixty to seventy-five thousand.

Q. The consumers added to your then existing consumers by the contracts with the Logan Natural Gal & Fuel Company and
1770 wholesalers and distributors are not included in the number of consumers set forth in your statement beginning 1910 and running to 1919, are they?

A. No, it only applies to consumers on the lines of the distributing plants not owned by underlying interests of the Union Natural Gas Corporation.

Q. The consumers in the State of Ohio of your company increased by reason of your reaching out and taking in territory and getting new consumers on the line for the consumption of gas?

A. It did, during the construction period, or rather during the period of the extension of our lines north in the State of Ohio, up to about 1908 or 1910, and the increase from that period to the present time is wholly due, in our own distributing divisions, to the natural growth of the cities and towns. The natural growth is approximately equivalent to taking on a new town of ten to fifteen thousand inhabitants each year.

Q. In some of those cities and towns the people have been using artificial gas, as we understand it, prior to dropping the artificial gas and putting in your natural gas?

A. They have.

Q. In view of the answers that you have given in your examination, I will ask you what your company will do, or can do,
1771 with its gas lines and its plants for distribution, when the supply of natural gas, through natural decline, has become exhausted?

A. I have not at this time fully determined what we will do in that respect, though we have thought that the time is near at hand when we should give serious consideration to the installation of plants to produce a mixed gas, to utilize the richer mixture of the natural with an artificial product before its final exhaustion, and be enabled to supply to consumers that product at probably a considerably increased price—at a price that would justify its use for cooking and lighting purposes.

Q. You mean, the manufacture of gas from coal and the mingling of such manufactured gas with natural gas, so long as the natural gas will last?

A. Yes, I do.

Q. Thereby making a combination of the artificial with the natural gas, so long as the natural gas supply will permit you to do that?
A. Yes.
Q. Then after the natural gas supply has ceased, what have you contemplated?
A. We have not thought quite that far. Still, probably
1772 it would result in resorting to a strictly artificial distribution and manufacture, unless in the meantime some method were discovered or invented that something might be substituted or a mixed or artificial gas produced at a less cost than at the present time.

Redirect examination.

Mr. Eagleson:

Q. Mr. Whitcomb, what is the policy of your company at the present time, or in the immediate past, with reference to extending its operations by the taking on of new municipalities or districts or, on the contrary, are you disposed to eliminate those you have, who have contracted for your service?
A. During several years past, we have taken on no additional service, and in fact we have used every possible means to restrict the service to the consumers, on the lines, and to avoid as far as possible making extensions in the cities and towns in which we are supplying gas, even though the franchises provided that extensions should be made. We have tried to convice the people that it was much better to give a fairly good service to a smaller number; that every
1773 new consumer that was taken on to the lines reduced the volume of gas to the others, and the result was a poor service to all.

Mr. Blue:

Q. On your cross-examination, when asked to give the shortage in the quantities of gas, you first stated the daily shortage, and then when asked to give the quantity for a year, you stated it was 1,260,000,000. Were you not in error in making that statement, and ought it not to be 10,260,000,000?
A. That is correct. Yes, it was an error, and it should have been 10,260,000,000. The 35,000,000 a day, however, was not an average daily consumption. That was, in my opinion, a peak load requirement for one single day. It might have prevailed continuously for even five or ten days, but it is not in any way indicative of the requirements for the twelve-month period. In fact, it is away in excess of that.
Q. But your supply of gas has been materially inadequate for the City of Dayton for the last four or five years, at least?
A. Well, I would say for the last three or four years.
Q. On your redirect examination you stated that you had sought to limit your service. Have you withdrawn or attempted
1774 to withdraw your service from any of the communities in the state of Ohio?
A. We did, in one instance, the town of Athens, in Athens County.

The franchise and the rate ordinance had both expired, and we petitioned the Public Service Commission that we might withdraw that service.

Q. Athens was one of the communities and municipalities served with gas by a company acquired by you in 1902?

A. It was.

Q. It is at Athens that you have one of the largest state institutions in Ohio?

A. Yes.

Q. The Ohio University is at Athens?

A. I don't recall that. There is an asylum there that I had in mind. I believe there is a university there. I believe the Ohio University is there.

Q. One of the oldest and one of the largest attended educational institutions in the state?

A. Yes, I believe so.

Q. Your company has been furnishing gas to both of those state institutions at Athens, namely, the Ohio University and the Hospital for Epileptics or insane or whatever it may be, has it not?

1775 A. It has.

Q. Your distribution of gas at Athens is a distribution of West Virginia gas received through the Connecting Company?

A. It is.

Q. You stated that you made application for permission to withdraw?

A. We did.

Q. You may state what was the result of that application?

A. We compromised and agreed not to withdraw. The service is being continued at Athens at the present time. We would have been glad to have withdrawn from a number of other cities and towns, but Athens was so located geographically and their franchise and rate ordinance having expired, and they being in the heart of the soft coal district, we felt that they would be put to less inconvenience than many of the towns in northern Ohio, where the fuel supply is not so convenient as at Athens.

Q. What sort of a compromise did you make?

A. We agreed to continue the service.

Q. For what purpose or use is gas furnished to the state institutions at Athens by your company?

A. I don't know the detail of the service for that use,

1776 though at one time I recall it was used for heating boilers and other purposes, but I am not familiar with the purpose for which it is used in the last few years.

Q. Has your company, in its desire to contract its service, withdrawn from other localities or communities, or sought to do so?

A. We have not. We have contemplated it and would be, as I have said, very glad to do so, if we were permitted.

Q. You mean, if the Public Service Commission of the state would allow you to do so?

A. Yes, sir.

Q. Is the investment in the Preston Oil Company included in

the statement of investments of the Union Natural Gas Corporation?

A. It is; that is, in their consolidated balance sheet, a statement of all of the underlying companies is included.

Q. To make it clear, I will ask you one more question. The Preston Oil Company is one of the subsidiaries of the Union Natural Gas Corporation?

A. It is.

Q. Being its oil producing department?

A. And gasoline.

Adjourned to Thursday, September 16, 1920, at 10 o'clock A. M.

ORIGINAL, #20 & #21.

October Term, 1920.

THE COMMONWEALTH OF PENNSYLVANIA

vs.

THE STATE OF WEST VIRGINIA.

THE STATE OF OHIO

vs.

THE STATE OF WEST VIRGINIA.

Proceedings of Thursday, September 16, 1920.

1777 And now, September 16, 1920, the hour of 10 o'clock A. M. having arrived, hearing resumed.

Present, the Commissioner and counsel as hereinbefore noted, also Philip R. Steptoe, Esq., on behalf of the State of West Virginia.

J. K. ANDERSON, a witness produced on behalf of Complainants, having been duly sworn, testified as follows:

Direct examination.

Mr. Weil:

Q. Mr. Anderson, give us your occupation.

A. I am a consulting engineer, and am senior member of the firm of Anderson & Taylor, consulting engineers, at Charleston, West Virginia.

Q. Have you had any experience in valuation work of public utilities and examination of the operations of public utilities?

A. I have.

Q. What has it been?

1778 A. In the nature of valuation of public utilities and rate cases coming before the Public Service Commission, principally for natural gas utilities, with some hydro-electric, street railways, electric light and water companies.

Q. How long have you been in that business?

A. Since October 1, 1919.

Q. You mean by that, that you have been a consulting engineer since October 1, 1919?

A. Yes, sir.

Q. And prior to that time?

A. Prior to that time, from July 1, 1913, to October 1, 1919, or six years and three months, I was engaged as chief engineer of the Public Service Commission of West Virginia, first commission and second commission.

Q. You mean by that, the commission that was first appointed and the commission that was appointed subsequently?

A. Yes, sir. The first commission was legislated out of office and a new commission appointed.

Q. Now, what were your duties generally as chief engineer of the Commission?

A. First, to establish and organize the Departments of Engineering and Inspection, to formulate tentative rules and regula-
1779 tions governing gas, water and electric utilities, and to investigate various matters coming before the Commission, involving the valuation of plants, conditions of service and suggested rates.

Q. This involved natural gas utilities, did it?

A. It did. A large part of my time was spent in matters concerning natural gas utilities.

Q. Before you entered upon your duties as chief engineer of the Public Service Commission of West Virginia, what was your prior profession or business experience?

A. The two years prior to July 1, 1913, were spent as consulting engineer in southern West Virginia. From 1905 to 1911, I was general manager and chief engineer of the United Thacker Coal Company, of Williamson, West Virginia, and of three other companies owning about 130,000 acres of valuable coal, timber, oil and gas rights in West Virginia and Kentucky. During this time, was a director of the Mingo County Bank and its successor, the National Bank of Commerce of Williamson, West Virginia; the President and Treasurer of the Thacker Coal Mining Company, and director of the Mingo Oil and Gas Company. In 1895, and 1896, was engaged in the investigation of the Warfield Kentucky anti-clinal,
1780 for some coal people, or some oil and gas people, engaged in leasing for them, and was part owner of leases and a wildcat gas well of about five million open-flow capacity, now owned by the United Fuel Gas Company, and from information it is still producing. During 1895 and 1896, was president of the County Court of Mingo County, West Virginia, and Commissioner of School Lands for Mingo County, for 1897 and 1898. During 1905, was superintendent in charge of the Millcreek and Coaldale Collieries, in the Pocahontas Coal Field, in West Virginia, and from July 1, 1905, to December 1, 1904, was assistant to the chief engineer of the Pocahontas Coal and Coke Company, owning several thousand acres of coal lands, and a subsidiary of the Norfolk & Western Railway Company. From December, 1899, to July 1, 1902, was superintendent and chief engineer for the Guyandotte Land Association, owning over 200,000 acres of valuable coal, timber, oil and gas lands in Mingo, Wayne, Logan and Lincoln Counties, West Virginia.

From about 1892 to 1900, was engaged in general engineering practice, both civil and mining, for numerous large land and collieries companies, in Wayne, Logan and Mingo Counties, West Virginia. Prior to this time, was engaged for a short time with the Department of Coal Operations for the Norfolk & Western Railroad, on their Ohio Extension in West Virginia. From May, 1889, to about the middle of 1892, was engaged in railroad construction, preliminary and location service, in Russell and Wise Counties, Virginia, for the Norfolk & Western Railroad. Was graduated in 1889 from Swarthmore College, Pennsylvania, with a degree of Bachelor of Science in Engineering; was born in Sheffield, Warren County, Pennsylvania, September 26, 1869.

1781

Mr. Hoffheimer: Mr. Commissioner, while I have not undertaken to interrupt the witness, I submit it is contrary to the course of the ordinary taking of evidence for a witness to give evidence while reading from some voluminous document; I do recognize, in necessary matters, a witness may use such documents to refresh his recollection, where necessary, after opportunity is given the opposing parties to inspect the documents used for the purposes of refreshment. It seems to me this particular process of reading typewritten bulky volumes is beyond the limits.

Mr. Weil: In order to qualify the witness so to testify, I will ask him some preliminary questions, with reference to this paper from which he is reading.

1782

Mr. Weil:

Q. Mr. Anderson, this paper from which you are reading, and to which counsel has objected, are answers prepared by you to questions submitted to you by counsel for complainant states, are they not?

A. They are.

Q. Aside from these preliminary questions, they involve the compilation of a large number of statistical data and figures, do they not?

A. They do.

Q. And in addition to the figures themselves, this examination involves the preparation of elaborate exhibits, involving the compilation of data and figures obtained from various sources and subsequently referred to by you in this examination, giving the sources of such information?

A. It does.

Q. Would it be possible for any witness to give this information without preparing the statistical data and reading the same? Would the memory of any man within your knowledge be able to contain all such information?

1783

A. I think not; there are many men more capable than myself.

Mr. Weil: We have no objection whatever to counsel examining the data from which the witness is reading, and I now offer to them that opportunity.

The Commissioner: Let the examination proceed, subject to the statements of counsel.

Mr. Weil:

Q. What experience have you had in the production of natural gas?

A. I organized the Anderson Oil and Gas Company, producing natural gas in Logan County, West Virginia; and president and secretary of the same—treasurer.

Q. Of what engineering and technical societies are you a member?

A. American Institute of Mining and Metallurgical Engineers, American Society of Civil Engineers, American Association of Engineers, the West Virginia Engineers Association. I am
1784 president of the latter association.

Q. Are you a member of the Natural Gas Association of America?

A. I am; also of the Natural Gas Association of West Virginia.

Q. From your past experience and study of the natural gas situation in West Virginia, and knowledge of the natural gas utilities and the general gas situation in West Virginia, are you prepared to give us the statistical data with reference to the natural gas situation in Pennsylvania, which you have been requested to prepare by counsel representing the states of Pennsylvania and Ohio in this litigation?

A. I have a general knowledge of the gas industry, especially in West Virginia, principally obtained by service with the Public Service Commission of West Virginia, and I have some more particular knowledge of the conditions obtaining in some of the large gas utilities and some of the large industrial consumers of those utilities.

Q. Now, what have been the sources of information to which you have resorted, in order to prepare the data which we have requested?

1785 A. The principal sources, the regular printed reports of the U. S. Geological Survey, the Board of Public Works of the State of West Virginia, and the Public Service Commission of the State of West Virginia, and also advance copies of reports of the Board of Public Works and of the Public Service Commission of West Virginia, which have not yet been printed, and numerous special compilations made under my direction—or the direction of our firm—from the monthly reports of public utilities to the Public Service Commission of West Virginia, and to the Board of Public Works by the natural gas utilities, and from some other sources. This information that I mentioned last is perhaps a year or more later than that obtainable otherwise, and I thought it would be of advantage to have as recent data on the subject as possible.

Q. Have you made a compilation of the developed and undeveloped acreage of the natural gas companies in West Virginia from the reports made by those companies to the Public Service Commission of West Virginia?

A. I have such information specially prepared from the reports of the natural gas utilities under the jurisdiction of the Public Service Commission of West Virginia, filed with the Board of Public Works of West Virginia.

1786 Q. Do you have such compilation, and if so, let us have it.

Mr. Hoffheimer: In order to avoid the repetition of objections to the line of examination which it is anticipated will follow, the State of West Virginia, while recognizing the rule as to testifying as to contents of, or results from, voluminous documents, also recognizes the qualifications to that rule, and objects, and desires to be considered as objecting, to each question and each answer in response to the questions involving statements of contents of or conclusions from the reports mentioned by the witness, which reports so far as we know, are not produced here and are not available to the defendant for examination in connection with the evidence of the witness, or as a basis for cross examination.

This objection is particularly pressed in relation to such reports as it is said have been made to the Board of Public Works and the Public Service Commission of West Virginia, by gas companies and particular utilities, which constitute mere exparte and self-

1787 serving declarations on the part of those companies and utilities and which in their nature and the purpose for which they are filed are subject to revision and correction, or rejection by the parties to whom the reports are made.

The objection is also especially applied to this line of evidence, in so far as it is based upon reports or documents stated by the witness to have been not accessible to the public, or of which the public did not have knowledge or information; and for the reason that these documents particularly are not now available to counsel for West Virginia for use in connection with this examination or cross examination.

Mr. Weil: At this time, in answer to the objection made by counsel for the State of West Virginia, as this is intended to be, as I understand, a general objection to all of this line of examination which is to follow, so as to save the rights of the State, I will examine the witness as to the sources of his information at this time, as to all of this general data, so that it may be for the information of

1788 the Court.

Mr. Weil:

Q. Mr. Anderson, you have given us, in a general way, the sources of your information, by stating that you referred to the regular printed reports of the United States Geological Survey, of the Board of Public Works and of the Public Service Commission of West Virginia. Now, let me ask you as to the reports, the regular printed reports, of the Board of Public Works of West Virginia; are those public documents or not?

A. They are public documents.

Q. And on file in the offices of the State of West Virginia?

A. I presume so.

Q. And accessible to the officials of the State of West Virginia, are they not?

A. Yes, sir.

Q. Now, the Public Service Commission of West Virginia, is the same true as to the printed reports of the Public Service Commission of West Virginia?

A. It is.

Q. And the reports made to the Public Service Commis-
1789 sion of West Virginia by these public utilities, are those reports on file in the office of the Public Service Commission of West Virginia?

A. They are.

Q. And are they accessible to the officers and agents of the State of West Virginia?

A. Yes, sir.

Q. Are they accessible to the public?

A. They are.

Q. Can anyone make an examination of those reports who desires?

A. They can.

Mr. Hoffheimer: With that explanation, we renew our objection.

Mr. Weil:

Q. Now, these reports to which you have referred, which are those on file in those offices, how often is each public utility required to file its report?

A. The natural gas public utilities are required to file a report monthly with the Public Service Commission.

Q. And are they also required to make annual reports as
1790 well as their monthly reports?

A. They are required to make annual reports to the Board of Public Works, which reports are also used and filed, I think—or used by the Public Service Commission and made a part of their annual report—by the Statistical Department of the Public Service Commission of West Virginia.

Q. What are the facts as to the voluminosity of those reports?

A. The reports are rather voluminous in themselves, and in the aggregate they make a very large quantity of papers.

Q. Give us some idea, by space occupied by the same, as to what volume those reports would occupy, if offered in evidence—all that have been referred to in connection with this testimony.

Mr. Hoffheimer: The counsel seems not to have understood the objection made by us. We did not insist upon a formal introduction of the documents in evidence as a general rule; the objection was based upon the ground that the regular rule in relation to the introduction of contents of voluminous documents has not been and is not followed in this instance.

The Commissioner: Answer the question.

1791 A. I would roughly estimate, sufficient to fill six or eight of these ordinary hard metal filing cases.

Mr. Weil:

Q. Well, that depends upon the size of the case. Would it take a quarter or half of this room? Give us the number of feet those documents would occupy?

A. Well, I should say about three feet in depth and eight or ten feet in length, and nearly four feet in height.

Q. This data which we have requested from you, is it not a compilation of the figures from these respective documents in the possession of the defendant in this case?

A. It is, with the exception of that information obtained from the United States Geological Survey and some information obtained from the large utilities themselves.

Q. In these reports which these public utilities are required to file with the Public Service Commission of West Virginia, are they required to report the number of operated and unoperated acres of gas territory held by each of them?

A. That is the case in reports required to be made to the State Boards of Public Works——

1792 Q. By the——

A. By the different utilities in the State of West Virginia.

Q. Now, then, have you made a compilation of the total acreage of operated territory and of unoperated territory of the natural gas utilities in the State of West Virginia, as reported by them, for the year 1919?

A. I have.

(Paper produced and marked as "Pennsylvania Exhibit No. 27. —Anderson.")

Q. I show you paper marked for identification "Pennsylvania Exhibit No. 27—Anderson," and ask you if that is such compilation?

A. It is.

Q. Now, state the total acreage of operated territory represented by these companies in the state of West Virginia, for the year 1919?

A. They reported a total operated acreage of 708,006.

Q. And what is the total acreage of operated territory of the same gas utilities, as represented to the State of West Vir-

1793 ginia, outside of the state, for the same period?

A. 162,426 acres.

Q. Now, what was the total acreage of unoperated territory of the same companies, as reported by them for the same year, in the state of West Virginia?

A. They reported a total unoperated acreage of 2,017,682.

Q. Now, what did they report, outside of the State of West Virginia?

A. They reported a total unoperated acreage outside of the State of West Virginia of 646,203 acres.

Q. What was the number of wells for the same companies, for the same period, as represented by them?

A. For the year 1919, they reported a total of 8,136 wells.

Q. And what was the number of wells reported by the same utilities outside of the state for the same year?

A. 1,407 wells.

Q. Have you compiled the data showing the amount of gas production, owned or purchased, in the state of West Virginia, as reported by these companies?

A. I have such information as reported to the Board of Public Works of West Virginia.

Mr. Weil: I now offer in evidence "Pennsylvania Exhibit No. 27—Anderson."

(Paper marked as "Pennsylvania Exhibit No. 28—Anderson.")

1794 Q. I show you paper marked for identification Pennsylvania Exhibit No. 28—Anderson, and ask you to state if that is a compilation of the amount of gas produced by the natural gas utilities within the State of West Virginia, as reported by them for the year 1919.

A. It is.

Q. Now, then, state the total amount of gas produced by these utilities in the state of West Virginia, as reported by them, for the year 1919.

A. They reported a total of 171,359,190,000 cubic feet.

Q. I call your attention to Pennsylvania Exhibit No. 28; the decimal points of the totals are introduced at the wrong places, are they not?

A. Through typographical error, decimal places were introduced in the above statements. There are no decimals; these numbers are whole numbers.

Mr. Hoffheimer:

Q. That applies to all other figures as well as the totals on that statement?

A. It does.

Mr. Weil:

1795 Q. Now, state the total amount of gas purchased from producers who are not utilities by the natural gas utilities within the State of West Virginia, as reported for the year 1919?

A. They report a total of 27,913,735,000 cubic feet.

Q. And state the total amount of gas produced and purchased from producers who are not utilities by the natural gas utilities within the State of West Virginia, as reported for the year 1919?

A. They report a total of 199,272,925,000 cubic feet.

Q. What was the total amount of gas produced without the State of West Virginia by the same natural gas utilities, as reported by them for the year 1919?

A. They report a total of 10,079,291,000 cubic feet.

Q. Now, that is as compared with 171,359,190,000 cubic feet, produced in the State of West Virginia?

A. It is.

Q. State the total amount of gas purchased without the State of Pennsylvania from producers who are not utilities, as reported by them, for the year 1919?

A. They report a total of 1,999,815,000 cubic feet.

Q. And what was the total amount of gas produced and purchased from producers who are not utilties without the State of West Virginia, as reported by these companies, for the year 1919?

1796 A. They report a total of 12,089,106,000 cubic feet.

Q. Mr. Anderson, calling your attention again to Pennsylvania Exhibit No. 28, and the correction you made with reference to the decimal point,—you say there should be none—these totals as well as the columns which are totaled, are supposed to represent, are they not, thousand feet?

A. They are.

Q. So that to each one of these totals should be added three naughts, if all of the figures were put down?

A. There should.

Mr. Hoffheimer:

Q. And that is true as to the figures other than the totals, is it not?

A. It is.

Mr. Weil:

Q. Now, from the same sources of information, have you made a compilation of the number of consumers of these natural gas companies for the State of Pennsylvania for the same year?

A. I have.

Q. From what did you make this computation of the num-
1797 ber of consumers in West Virginia?

A. This was prepared from reports of the Natural gas utilities under the jurisdiction of the Public Service Commission of West Virginia, filed with the Board of Public Works of said state.

Q. In what classes are these consumers divided in these reports?

A. Into domestic and industrial classes.

Q. Now, give us the total number of domestic consumers of these gas companies within the State of West Virginia, as represented by them, for 1919?

A. They report a total of 130,780 domestic consumers.

Q. In the state?

A. Within the state of West Virginia.

Q. And what was the total number of industrial consumers in the state?

A. They report a total of 1,915 industrial consumers within the state of West Virginia.

Q. Now, is the gas which is consumed in the manufacture of carbon black included in the figures which you have given of natural gas consumption?

A. It is not.

(Paper produced and marked "Pennsylvania Exhibit No. 29—Anderson.")

1798 Q. I hand you chart, marked for identification "Pennsylvania Exhibit No. 29—Anderson," and ask you if that was prepared by you?

A. It is a chart prepared by our firm.

Q. Prepared under your direction was it?

A. Yes, sir.

Q. And does that chart correctly show the production and consumption of natural gas in the State of West Virginia, from information obtained from the reports of the United States Geological Survey, the Board of Public Works of West Virginia and the Public Service Commission of West Virginia, of the Twenty-two of the largest natural gas utilities within the state of West Virginia?

A. It does.

Q. I wish you would now explain that chart so that one looking at the chart will understand what you intended to show thereby—giving us the figures as shown upon the chart. Make it as short as possible.

A. This chart is ruled by vertical lines representing the years 1904 to 1922, by the spaces between said vertical lines. The horizontal lines represent the number of cubic feet which was either produced or consumed during the respective years, shown in
1799 billions of cubic feet on this chart, by reason of the large figures involved. The upper line shows the annual production of gas for each calendar year, and in the case of a few of the recent years, by reports ending June 30th of said year. The straight line unbroken, of medium thickness, represents information obtained from reports of the United States Geological Survey. The dash-and-dot broken line represents information obtained from reports made by the Public Utilities engaged in natural gas service in the State of West Virginia to the Board of Public Works of said state. The heavy solid line represents information obtained from the reports of the natural gas utilities to the Public Service Commission of West Virginia. The dotted line represents information obtained from the reports of twenty-two of the largest utilities within the State of West Virginia to the Public Service Commission of West Virginia, and are taken so as to show these different figures as reported, and they are fairly uniform results obtained by the information from these different sources.

The production, it will be noted, rapidly increased from the year 1908 to about the year 1917, from which period it has
1800 rather steadily declined. The consumption, as noted in 1908, gradually increased to about the same year, 1917, from which time it has slightly declined. The difference between the production line and the lower line, or consumption line, shows the

amount of gas which was produced and exported to other states or used in some manner for which no account was made.

Mr. Weil: I now offer in evidence "Exhibit No. 29—Anderson," in connection with the testimony of the witness.

Q. Mr. Anderson, is there any way of determining the presence of natural gas in a given territory or field, except by the drilling of a well?

A. There is no way in which its presence can be determined, except by drilling a hole into the sand or strata which may contain the gas.

Q. Where gas has been found, what has been the experience of the trade in finding a ready early market for such gas, in order to avoid loss?

A. Whenever gas has been found in any competitive territory, the finder has been very anxious to seek an immediate market for his gas, because the gas is frequently free to flow through the
1801 sand in which it occurs in the direction of the lowest pressure, and perhaps to adjacent leases or wells of competitors.

Q. Well, have experts, geologists or others, including practical operators, ever yet found any means of ascertaining or determining to any extent, or how far, in any given territory, one well will affect the production of or drain another?

A. I think not.

Q. Now, when gas is discovered and brought to the surface by the drilling of a well, what is the general method of making it available commercially or otherwise?

A. It enters the gathering lines leading to the compressor stations, and there goes into the main high pressure transportation system, which delivers the gas to the intermediate pressure systems or belt lines in the larger communities, from which it is delivered at reduced pressure to the distributing systems of the different gas utilities, and from there to the service lines, and the house piping leading to the fixtures used by the consumer.

Q. Now, since 1880, what has been the history of the use of natural gas as to the greater or less extent to which it has been put into commercial use?

1802 Q. It has greatly increased. Before 1880, it is probable that natural gas was used only by a few thousand consumers in scattered communities. The United States Geological Survey reports for the year 1918, 2,508,543 domestic consumers in the United States. On a basis of five persons to each consumer, there would be 12,542,715 people enjoying the use of natural gas, or over 10 per cent of the population of the United States. They consumed in that year 271,102,298,000 cubic feet of gas. In the same year, there were 16,581 industrial consumers served with 449,898,661,000 cubic feet, or a total amount of gas used by both classes of consumers of 721,000,959,000 cubic feet.

(Paper marked "Pennsylvania Exhibit No. 30—Anderson.")

Q. I show you paper marked "Pennsylvania Exhibit No. 30—Anderson," and ask you if that is a sheet reprinted from the United States Geological Survey, showing the number of producers, consumers—domestic, industrial and total—and the volume, average price, and so forth, of the year 1918?

A. It is an advance report from the United States Geolog-
1803 ical Survey, covering the information you mention, for the different states in the United States, as well as the total in the entire United States?

Mr. Weil: I offer in evidence "Pennsylvania Exhibit No. 30—Anderson," in connection with the testimony of the witness.

Q. Mr. Anderson, give us the number of industrial and domestic consumers, and the amount of natural gas consumed by them, in the State of Pennsylvania, as shown by this exhibit, Pennsylvania Exhibit No. 30, which has been already introduced, for the year 1918.

A. The report of the United States Geological Survey for the year 1918 shows 481,275 domestic consumers; or, on a basis of five people to each consumer, 2,406.375 people using 59,839,731,000 cubic feet of gas. It shows 4,486 industrial consumers, using 117,300,074,000 cubic feet of gas. The total consumption in said state for both classes is given as 177,139,804,000 cubic feet.

Q. Now, have you the same information as to the number of domestic and industrial consumers and the amount of gas consumed by them, in the State of Ohio?

A. I have; it is shown on the reverse side of that sheet—
1804 on Pennsylvania Exhibit No. 30.

Q. Give it to us.

A. A report of the United States Geological Survey for the year 1918 shows 885,876 domestic consumers, or, on a basis of five people to each consumer, 4.429,380 people using 98,023,666,000 cubic feet of gas. It shows 4,010 industrial consumers, using 45,561,594,000 cubic feet of gas.

Q. What are the facts as to these domestic consumers in Pennsylvania and Ohio and their families being dependent upon natural gas for heating, cooking and lighting? What do you know about that?

A. I believe they are more or less largely dependent on natural gas for cooking, heating and lighting.

Mr. Hoffheimer: I move to strike out that answer as a statement of opinion or conclusion of the witness, and not responsive to the question, which asks for facts.

The Commissioner: Note the motion.

Mr. Weil:

Q. When natural gas is used as a fuel in dwelling houses,
1805 and also industrial plants, is it necessary to construct the houses and plants specially adapted to the use of gas as compared with other fuel?

Mr. Hoffheimer: That is objected to, on the grounds stated in the objection to the previous question.

The Commissioner: Note the objection.

A. To burn gas economically, it is necessary to have your house equipped with proper service and house piping between the floors and walls of dwellings, and to use efficient appliances, also to construct suitable flues to carry off the products of combustion.

Q. And when thus constructed, can these same appliances be used for any other fuel?

A. The natural gas appliances cannot be used for burning any other fuel. Many houses are equipped with flues which are sufficient to carry off the burned gases, but are insufficient to carry off the increased volume of smoke and burned gases from coal.

Q. What would have to be done, in order to adapt those houses to other fuel?

1806 A. It would be necessary to largely reconstruct a great number of those houses at heavy expense, to equip them to use other fuel. Often it would be necessary to increase the size of flues with which the house was originally equipped, and frequently to build a large flue of sufficient capacity to take care of the products of combustion from large coal-heating furnaces, which are extensively used in heating residences.

Q. Is the same thing true of industrial plants, to a certain extent?

A. In case of industrial plants, where it is desired to change from natural gas to the use of coal, oil, or other substitute fuel, it is generally necessary to reconstruct some of the subjects, in order to make the change in fuel, or else to build and construct artificial gas plants with which to supply artificial gas in the same appliances and burners. This is perhaps a heavier expense than to make a change to some of the other classes of fuel.

Q. In the event that a supply of natural gas to either domestic or industrial consumers becomes, for any cause, intermittent and not continuous, what would be the situation as to the use by either

1807 domestic or industrial consumers of natural gas as a fuel?

A. It would be impossible to retain a market for natural gas, under conditions that the deliveries were extremely irregular; it would cause great dissatisfaction, and the use of substitute fuel, and destroy the market for natural gas.

Q. Do you know whether or not there are large numbers of domestic and industrial consumers in Pennsylvania and Ohio who are dependent upon the natural gas which is transported by the respective companies from West Virginia, for fuel?

Mr. Hoffheimer: That is objected to, as calling for an opinion or conclusion of the witness, without any statement of facts upon which the conclusion ought to be based.

The Commissioner: Note the objection and let the witness answer.

A. I have some information on that subject embraced in Pennsylvania Exhibit No. 30, page 2; the report of the United States Geo-

logical Survey for the year 1918 shows 481,275 domestic con-
1808 sumers in Pennsylvania. If it is assumed that there are four other people benefiting by the use of the gas used by each consumer, there would be a population of 2,406,375 using natural gas in 1918.

Q. My question was, have you any information on the subject?

A. I have that information from the United States Geological Survey.

Q. Now, then, taking the information which you have upon the subject, which you have obtained, let me ask you the question if there are large numbers of domestic and industrial consumers, in both Pennsylvania and Ohio, dependent on West Virginia gas for consumption?

Mr. Hoffheimer: Same objection.

The Commissioner: Note the objection.

A. There are.

Q. What percentage of the total consumption of natural gas by the domestic and industrial consumers of Pennsylvania is supplied from West Virginia?

A. About 40 per cent of the total consumption of natural gas by the domestic and industrial consumers in Pennsylvania
1809 is supplied by gas imported from the State of West Virginia, and therefore at least 40 per cent of such consumers are wholly or partly dependent upon West Virginia for their fuel supply.

Q. You get that information from these reports which have already been introduced in evidence?

A. I do.

Mr. Blue:

Q. You are basing your answer just given upon the information set out in Pennsylvania Exhibit No. 30?

A. I am not certain about the numbers, but it is based upon that U. S. Geological survey.

Q. That is Pennsylvania Exhibit 30?

A. Yes, sir.

Mr. Weil:

Q. Now, do you know of any other fields than West Virginia fields of natural gas which are tributary to Pennsylvania, outside of what is produced in Pennsylvania itself, from which a supply of natural gas for consumers could be obtained?

A. I do not.

A recess was here taken until 1:30 o'clock P. M.

1810 Thursday, September 16, 1920.

Afternoon Session.

And now, the hour of one-thirty o'clock P. M. having arrived, parties met pursuant to adjournment.

Present: Parties as before.

J. K. ANDERSON resumed the stand and his direct examination continued by Mr. Weil:

Q. Are all the known fields occupied at the present time and in use, so far as you know?

A. They are so far as I know.

Q. What is your information as to those fields being at the present time sufficient to supply all consumers of natural gas?

A. They are inadequate for a large part of the year.

Q. Have you made, from their reports to the Public Service Commission of West Virginia, a compilation of reserve and unoperated territory, as well as operated territory, of the local companies operating in West Virginia?

1811 A. I have prepared a special statement from reports made by these companies to the Board of Public Works of West Virginia for the year ending December 31, 1919, giving this information.

Q. I show you a paper marked for identification "Pennsylvania Exhibit 31,—Anderson" and ask you if that is the statement to which you refer.

A. This and other statements. This is not the statement I referred to in answer to your previous question.

Q. The information to which you referred is contained upon one of the other exhibits already offered in evidence?

A. It is.

Q. I wish to show you Pennsylvania Exhibit 31 and ask you if that was prepared by you as showing the comparison between the operated and unoperated territory of seven of the large interstate natural gas companies doing business in West Virginia as compared with twenty small local companies in West Virginia doing business intrastate?

A. It was.

Q. I now ask you what percentage of the total acreage do the large interstate gas companies doing business in West Virginia have under operation and what percentage they hold in reserve and

1812 also to give us the same information, with regard to the local intra-state gas companies, giving the same percentage.

A. The seven large interstate companies, 26.57 per cent of their total acreage, in operation, and 73.43 per cent of their acreage in reserve, while the twenty small local companies doing intrastate business have 62.65 per cent of their acreage in operation, and hold 37.35 per cent of their acreage in reserve.

Q. Can you give us a list of those twenty local intrastate companies with which you have made this comparison?

A. Bailey Gas Company, Berea Heat & Light Company, Bridgeport Natural Gas & Oil Company, Buckhannon Fuel Company, Cameron Heat & Light Company, Clarksburg Light & Heat Company, Comet Oil & Gas Company, Harshbarger Oil & Gas Company, Home Petrolem & Natural Gas Company, Imperial Oil & Gas Products Company, Montgomery Gas Company, Herman Moore, Salem Natural Gas Company, Shields Oil & Gas Company, Shinnston Oil Company, G. B. Travis, Troy Oil & Gas Company, West Union Gas Company, West Virginia Heat & Light Company and Wetzel Natural Gas Company.

Mr. Weil: Counsel for the complainant offer in evidence "Pennsylvania Exhibit No. 31—Anderson."

1813 Q. Have you made an examination and prepared a computation showing the average yearly consumption of natural gas in thousands of cubic feet per domestic consumer, for the year 1918, based on the annual reports of the United States Geological Surveys for the States of Pennsylvania, West Virginia, Ohio, Kentucky and Indiana, and twenty-two other states, and the average for the whole?

A. I have.

Q. Now, give us the average annual consumption per domestic consumer for the year 1918, for the different states?

A. The average annual consumption per domestic consumer for the year 1918, for the different states, is as follows:

West Virginia	164.89	thousand	cubic	feet.
Pennsylvania	124.34	"	"	"
Ohio	110.65	"	"	"
Kentucky	87.21	"	"	"
Indiana	78.25	"	"	"
22 other states	91.80	"	"	"

The average for the United States is 108.07 thousand cubic feet.

1814 Q. Have you made a compilation from the reports made to the Board of Public Works of West Virginia, and to the Public Service Commission of West Virginia, showing the average yearly consumption per domestic consumer in West Virginia, in thousand cubic feet, for the years 1909 to 1919, inclusive?

A. I have.

Q. I show you a paper marked for identification Pennsylvania Exhibit 32—Anderson, and ask you if that is the statement to which you refer, and if this shows the domestic consumers, the volume in thousand cubic feet, and the average per domestic consumer, from 1909 to 1919, inclusive, and also on the second page thereof, gives the number of domestic consumers, number of thousand of cubic feet, and the average per domestic consumer of thirteen companies and fifty-four other utilities doing business in West Virginia?

A. It is.

Q. Does this compilation show the average consumption per domestic consumer in West Virginia has alway been higher than that of other states?

A. It does, for the year 1918. I cannot tell you as to the other states for other years.

1815 Counsel for the complainant offer in evidence Exhibit 32.

Q. Have you made any computation and estimates of the quantity of gas which the industrial plants in West Virginia would take per year, if they could get a full and continuous supply?

A. I have made two such estimates, based upon the reports of the maximum monthly sales in any one month to domestic and industrial consumers of the twelve largest gas utilities doing business in West Virginia, which reports were made to me in writing by letter. The first show the increased demand per annum in excess of the present sales which the industrial consumers——

Mr. Hoffheimer: The question was whether you have made any estimate. That can be answered yes or no. To the rest of it I object to the so-called estimate, based upon the reports of the character referred to by the witness, which reports are purely hearsay, speculative in character, and dependent upon particular construction of individuals or of the witness as to the operation or effect of the statute in question.

1816 The Commissioner: Note the objection.

The Witness:

A. (Continuing:) —would make upon the utilities by reason of the operation of the act in question, amounting to 98,628,380,000 cubic feet; second, showing the increased sales per annum of gas which would be made to industrial consumers under the operation of said act, amounting to 55,017,359,000 cubic feet.

Mr. Hoffheimer: The State of West Virginia moves to exclude the answer of the witness, for the reasons assigned in the objection to the question.

The Commissioner: Note the objection.

Mr. Weil:

Q. I show you a paper marked for identification "Pennsylvania Exhibit No. 33—Anderson," and ask you if that is the computation to which you have just referred in your previous examination?

A. It is.

1816½ Counsel for complainant offer in evidence Pennsylvania Exhibit No. 33—Anderson.

Mr. Hoffheimer: Objected to as constituting a purely speculative estimate of the witness, based upon hearsay and upon individual opinion, as to the construction and effect of the statute in question; for the further reason that the witness has stated no facts or knowl-

edge of facts upon which such an estimate has been or can be made by him; for the further reason that no proper foundation has been laid for the introduction of this exhibit or of the matters and things therein contained; for the further reason that the evidence is incompetent, irrelevant and immaterial.

The Commissioner: Note the objection and let the exhibit be received.

Mr. Weil:

Q. Have you any other estimates of the increased industrial use of gas per annum within the state of West Virginia, by
1817 reason of the operation of the act now in controversy?

Mr. Hoffheimer: Same objection.
The Commissioner: Note the objection.

A. I have made an estimate of such increased use of gas in West Virginia, based upon the curtailment of the supply of gas to industrial consumers, by reason of the increased domestic consumers' demand during the winter months, based upon the actual monthly industrial sales of the nine largest gas utilities operating in the states of West Virginia, Pennsylvania, Ohio and Kentucky.

Mr. Weil:

Q. What amount of increased use of gas per annum does this computation show?

A. It shows 32,959,471,000 cubic feet.

Q. Does this purport to show the entire increase in the industrial demand, which will occur under the operation of the act?

A. It does not; on the contrary, it is believed to be much
1818 less than the actual demand would prove to be.

Mr. Hoffheimer: We move to strike the answer out, for the reason stated in the last preceding objection.

Mr. Weil:

Q. Have you made a statement showing the maximum yearly consumption of natural gas for each of the industrial consumers within the state of West Virginia, for the years 1915 to 1918, inclusive, as compared with the year 1918, together with a summary of that calculation?

A. I have.

Q. I show you a paper marked for identification "Pennsylvania Exhibit 34—Anderson," and ask you if that is a summary of that calculation?

A. It is.

Q. What increased use of gas per annum for industrial consumers within the State of West Virginia does this statement show?

A. It shows an increase of 38,467,334,000 cubic feet.

Q. And does this show the entire increase likely to occur under the operation of the Act?

A. It does not, but it is believed to be far below the in-
1819 creased amounts which will be demanded.

Counsel for the complainant offer in evidence Pennsylvania Exhibit 34—Anderson.

Q. Do any of those estimates and statements which you have prepared and which we have put in evidence purport to include any of the increased demands that would be made for industrial gas by industrial consumers that might be induced to locate in the State of West Virginia, on account of the fact that they might be obtaining the use of natural gas?

Mr. Hoffheimer: Objected to as involving an inadmissible assumption and one having no foundation on the evidence and being entirely speculative.
The Commissioner: Note the objection.

A. It does not.

Mr. Weil:

Q. From the figures and estimates which you have made
1820 with reference to the increased consumption of industrial gas in the State of West Virginia, under the operation of the Act now in controversy, if it goes into effect, state whether or not, in your opinion, that increased consumption would consume substantially all of the gas produced in West Virginia?

Mr. Hoffheimer: Objected to as purely speculative, and as a matter concerning which the witness has not shown himself qualified to answer, as not based upon any fact heretofore testified to or shown to exist within the knowledge of the witness or in fact; and it is further objected to as having no bearing upon the question of the validity or invalidity of the statute in question or upon the power of the State of West Virginia to enact or enforce the statute; and further, as incompetent, irrelevant and immaterial.
The Commissioner: Note the objection.

A. It will, within a few years.

1821 Mr. Weil:

Q. Within what length of time would you say?

Mr. Hoffheimer: Same objection.
The Commissioner: Note the objection.

A. I would say within a year and a half from the date of the effectiveness of the act.

Mr. Weil:

Q. Is it the fact that competitive leasing by different companies doing business in the State of West Virginia of prospective gas territory has in any way been eliminated?

Mr. Hoffheimer: Objected to as not the proper subject of opinion evidence; the opinion called for is based upon no statement of fact testified to by the witness, or apparently within his knowledge.

The Commissioner: Note the objection.

A. It has not. On the contrary, there is an active com-
1822 petition between large companies and smaller producers in endeavoring to lease new territory in new fields.

Mr. Weil:

Q. Is it practical to use the pipe lines which constitute the transportation system of natural gas companies for the purpose of storage of a supply of gas to any practical extent?

A. It is not.

Q. Have you made an estimate of the capacity of the natural gas mains in the State of West Virginia?

A. I have prepared such an estimate based upon reports made to the Board of Public Works of West Virginia, for the year ending December 31, 1919, which included all pipe of every size and use in the State of West Virginia. The figures used in this estimate did not embrace any pipe used by oil companies or by manufactured gas distribution plants.

Q. Will you now from this estimate or computation state how long the amount of gas that could be thus stored in the State of West Virginia in these lines would supply, at a four-ounce pressure, to each consumer in the State of West Virginia alone, any natural gas?

1823 Mr. Hoffheimer: Objected to as incompetent, irrelevant and immaterial.

The Commissioner: Note the objection.

A. If we were to assume the uniform pressure of 50 pounds above atmospheric pressure and reduce the gas to be furnished to the equivalent of a four-ounce basis, there would be 71,082,000 cubic feet of gas which might be distributed. This would last the consumers in the State of West Virginia less than six hours, if it were possible to deliver all that gas. Practically it would not supply any gas under working conditions, because it is necessary to maintain the usual pressure over the entire system, in order to overcome the friction of the great lengths of line and to deliver a continuous supply of gas to the consumers.

Mr. Weil:

Q. What would be the effect upon the operation of the interstate gas companies, or those transporting gas from West Virginia into the other states, of the enforcement of the provisions of the Act now in controversy, with respect to the transportation of gas from West Virginia into other states?

1824 Mr. Hoffheimer: Objected to, for the reasons heretofore assigned.

The Commissioner: Note the objection.

A. The chief effect upon the large utilities would be to disorganize their operations because of changing the direction and amounts of gas from those for which their plants were designed to meet demands which were unforeseen, and which, being caused by the deficiency in supply of gas produced by small local companies, would come at times of greatest demand upon their own consumers, this great deficiency in supply to the consumers in other states during extreme cold weather would cause great distress and suffering and be attended with danger of possible death from asphyxiation.

Mr. Weil:

Q. While employed by the Public Service Commission of West Virginia, were you called upon from time to time, as their chief engineer, to make investigations of the natural gas shortages which occurred during the years that you were chief engineer to said Commission?

A. I was.

1825 Q. What information can you give us as to these shortages which have prevailed for several years past, as called to your personal attention?

Mr. Hoffheimer: Objected to, except insofar as it relates to facts personally observed or within the personal knowledge of the witness.

A. From time to time, numerous complaints of shortages of gas during extreme cold weather was called to the attention of the Public Service Commission of West Virginia. Those shortages they directed me to investigate and report. In those investigations at times, on certain parts of the distribution system of a number of the companies, I found there was practically no gas in the homes of some of the consumers. In other cases, the gas would light and burn in some of the appliances, but would not light in others. This was the case, although the manufacturers and industrial consumers had been largely curtailed in the amount of gas furnished to them. Instances occurred, especially in the town of Clarksburg, furnished by one of the local gas companies, or those doing business

1826 entirely within the State of West Virginia. Other complaints were made on the northern Panhandle of West Virginia. In connection with that, investigations were made as to the curtailment of gas furnished to industrial consumers in the States of Pennsylvania and Ohio, as compared to the treatment afforded industrial consumers in the State of West Virginia. It was found that equal treatment, by one company in particular, was afforded to the industrial consumers in the several states, although, if anything, a slightly better supply was afforded to the industrial consumers in West Virginia, by reason of their being nearer to the source of supply.

Mr. Weil:

Q. What effect would the enforcement of the provisions of the Act in controversy here have upon the consumers in Pennsylvania who obtain through their respective companies their supplies of natural gas from West Virginia?

Mr. Hoffheimer: Objected to as calling for the opinion of the witness, as speculative, and based upon the witness's undisclosed and probably erroneous construction of the Act; and further
1827 as incompetent, irrelevant and immaterial.

The Commissioner: Note the objection.

A. It would certainly endanger the comfort, for a considerable time during the winter season, of over two million people in the State of Pennsylvania, by reason of shortages of gas which would take place. Their peak load, coming at the same time as the peak load demand of domestic consumers of the various natural gas utilities in West Virginia, making a natural shortage at the extremities of the distribution system, much greater than it would be in the State of West Virginia itself. This might possibly endanger their lives, by reason of the low pressure which would prevail in so many homes and attendant danger from possible fire and explosion.

Mr. Weil:

Q. Would you say that it would have the same effect upon domestic consumers in Ohio, who obtain their supply of natural gas from West Virginia?

A. I would think so, to about the same extent.

Q. And how many people would be affected?

A. I gave you the figures of the total number using gas.
1828 As to just how many are dependent upon a supply from West Virginia, I am unable to state, but it would be a large number, because there is a large amount of gas exported from West Virginia into the State of Ohio.

Q. What would be the effect upon those domestic consumers, both in Pennsylvania and Ohio, financially, of such diminution or cessation of the supply of natural gas from the supply as now obtained?

Mr. Hoffheimer: Same objection.

The Commissioner: Note the objection.

A. If the supply was seriously diminished, it would necessitate the use of substitute fuel in the homes. That would possibly cause heavy expense for the installation of heating furnaces, stoves, chimneys and flues necessary to use the substitute fuel. It is also probable that the substitute fuel would cost them more than they are now paying for natural gas, and it would thus be an additional expense.

Mr. Weil:

Q. These shortages or diminution of supply would occur,
1829 would they not, during the domestic peak load periods of the coldest weather?

A. They would.

Q. Both in Pennsylvania and Ohio, and also because of the increased demand during those periods in West Virginia?

A. They would.

Q. The same effect substantially would attend any substantial curtailment of supply to industrial consumers, would it not?

A. It would, both in the loss of increased cost of change for a substitute fuel, as well as the possible increased cost of substituting another fuel itself.

Q. Would these same effects be visited upon those occupying public buildings, hospitals and the like?

Mr. Hoffheimer: Same objection.
The Commissioner: Note the objection.

A. Yes, sir.

Mr. Weil:

Q. And would there be a like increase in cost and expense to those operating such public buildings, hospitals and the like?

1830 Mr. Hoffheimer: Same objection.
The Commissioner: Note the objection.

A. Yes, sir, both for the cost of changing to a substitute fuel and perhaps as to the increased cost of such substitute fuel.

Mr. Weil:

Q. Would it be practical or possible, in your opinion, with the present knowledge and information of the natural gas supply in West Virginia, and the other states in which those companies operating in West Virginia and in other states are now doing business, to operate these interstate companies and supply gas to their consumers in the States of Ohio and Pennsylvania, under the conditions and provisions of the Act now in controversy here?

Mr. Hoffheimer: Objected to, on the grounds already stated to similar questions involving the construction and operation of the Act, and also as incompetent, irrelevant and immaterial.
1831 The Commissioner: Note the objection.

A. It would be possible for them to operate at times but they would be seriously crippled in their operation. A large part of their plant would practically be useless for a large part of the year, and if that continued, they would lose their market in these other states, and thereby lose all or a large part of the plant used in serving the consumers in these other states, and transporting the gas from West

Virginia to these other states, both through large main lines and possibly some compressor stations.

Q. Would it be practical to operate such companies who deliver gas from West Virginia into these other states, unless such companies can be continuously operated, and not be shut down substantially for considerable periods of time?

Mr. Hoffheimer: Same objection.

The Commissioner: Note the objection and let the witness answer.

A. The practical operation would depend upon the seriousness of the interruptions in service. If it was very large it would practically force the cessation of business.

1832

Cross-examination.

Mr. Hoffheimer:

Q. When were the computations and compilations which you have prepared so copiously made by you?

A. Well, they were made during this summer and almost up to date.

Q. Beginning when?

A. Beginning along the first of July—some of them.

Q. During what period did you collect or obtain the information upon which these compilations were made?

A. I think I made some start in June of this year.

Q. At whose request and by whose employment did you make these investigations and compilations?

A. Mr. Weil's, counsel for the State of Pennsylvania.

Q. And since the first of October, 1919, by what gas companies have you or your firm been employed?

A. I was employed by the Manufacturers Light & Heat Company, as consulting engineer, and the Hope Natural Gas Company, in part, I understand, and by the Reserve Natural Gas Company, in part.

Q. When did this employment begin?

1833 A. I think they began the first of October, 1919.

Q. That is, immediately upon the determination of your employment by the Public Service Commission of West Virginia?

A. Yes, sir.

Q. The greater part of your experience in the natural gas business or with it was gained while in the employ of the Public Service Commission of West Virginia?

A. The larger part of it, yes.

Q. How much experience did you have with the natural gas business before you went with the Public Service Commission?

A. I was born in Northwestern Pennsylvania, which is more or less of an oil and gas country; and in Logan County, West Virginia, about 1896, I was employed by some oil and gas men from Ohio to make an examination and secure leases in the County of Logan, in what is known as the Warfield district. I obtained a small interest as a part of the consideration for doing a lot of surveying of the so-

called 45 degree line, and located a gas well on some of the leases which I secured, or was instrumental in securing, for those parties.

Q. Aside from the service and experience you have just detailed, did you have any experience with the operation of natural gas companies?

1834 A. While I was with the Public Service Commission of West Virginia some friends and myself secured leases on what is known as Crawley Creek, West Virginia, and I was elected president and treasurer, and we put down three gas wells.

Q. What did you do with the gas?

A. Sold it to the United Fuel Gas Company.

Q. When did that operation begin and when did it end?

A. It is not ended. It began, I think, in 1914.

Q. Did your company operate that territory itself or did you sell it?

A. No, we drilled the leases and sold the gas.

Q. Where was that gas delivered to the United Fuel Gas Company?

A. Delivered into their 16-inch line leading from the Chapmansville field to the Warfield district, in Logan County, West Virginia.

Q. That 16-inch line leads where?

A. From Chapmansville to Kermit, in West Virginia.

Q. What was the name of your company?

A. The Anderson Oil & Gas Company.

Q. Does it or did it ever sell any gas to anyone except the United Fuel Gas Company?

1835 A. To no one.

Q. It does not, nor did it ever, supply any gas locally?

A. Just to the owners of the leases.

Q. That is, to the lessor?

A. Yes.

Q. You have given us some figures as to the acreage of gas companies, both operated and unoperated, in West Virginia and elsewhere. As of what date do those figures apply?

A. The exhibit- we filed were as of December 31, 1919.

Q. Where is that acreage, operated and unoperated, located in West Virginia?

A. That is located in the northern part, central part and southern part of the state, in the various fields of the different large gas companies, and some of the small companies.

Q. I wish you would tell us what counties?

A. I would have to look that up. I couldn't tell you offhand.

Q. You do not have that in your book?

A. No, I do not have that in my book.

Q. Has the amount of that acreage, operated and unoperated, remained constant from year to year, up to 1919?

A. It varies.

1836 Q. Which way has it varied?

A. Well, I can't tell you that. To tell you that, I would have to look at all those various reports for the different years.

Q. Am I correct substantially in saying that that acreage was and

is located in the following counties of West Virginia: Boone, Braxton, Brook, Cabell, Calhoun, Clay, Doddridge, Gilmore, Hancock, Harrison, Kanawha, Lewis, Lincoln, Logan, Marion, Marshall, Mingo, Monongalia, Nicholas, Ohio, Pocahontas, Pleasants, Putnam, Ritchie, Roane, Taylor, Tyler, Upshur, Wayne, Wetzel, West and Wood?

A. Those counties sound familiar to me as being counties producing gas.

Q. Do you know of any others?

A. I would have to look that up to see just what others are included.

Q. Have you ever heard of Jackson and Barbour Counties as gas producing counties of West Virginia?

A. I don't believe they produce much gas.

Q. Do you know whether they produce it or did produce any?

A. I don't believe they produced any to speak of. I think there was some wildcat development.

1837 Q. Where was it?

A. I don't know.

Q. How about acreage, either operated or unoperated, in those counties? Was there any in 1919?

A. I can't tell you without looking it up.

Q. Where would you look it up?

A. In the reports of these various companies to the various counties for taxation purposes.

Q. As a matter of fact, could you tell us offhand, without looking at any of the reports of any of the counties, in which of the counties any of this operated or unoperated acreage was, as of December 31, 1919?

A. Why, I think there was some of it operated and unoperated in Mingo County, and some operated and unoperated in Lewis County, and in a number of other counties—some in Marshall, some in Doddridge and Wetzel and generally wherever these large companies have territory, they have operated and unoperated acreage there.

Q. I want you to tell me now, according to your knowledge and recollection, all of the counties you can remember, in which this operated and unoperated acreage was, as of the end of December, 1919?

A. I can't tell you definitely where it was located.

Q. I want the names of all of the counties you can remember.

1838 A. I wouldn't pretend to give you that information.

Q. Tell us the names of all counties in which you know personally to have existed any of this operated and unoperated acreage, as of December 31, 1919?

Mr. Weil: Objected to as not cross-examination. The witness did not undertake to testify as to the operated and unoperated territory from any knowledge of the same that he had personally, but stated that he obtained information from reports made to the Public

Service Commission and Board of Public Works of the State of West Virginia by the respective companies operating therein.

The Commissioner: Note the objection and let the cross-examination proceed.

A. I can't give you that information.

Mr. Hoffheimer:

Q. You don't have it and you never did have it, did you?

A. I never had that information and I don't have it now.

Q. You have given us figures on gas production and
1839 consumption both in West Virginia and in Pennsylvania and Ohio. Do you have any more personal knowledge on that subject than you have on the subject of acreage?

A. I have just the information from the sources which I stated up to the year 1919.

Q. In which direction did the production of gas in West Virginia tend, up to the year 1919, upward or downward?

A. It tended to increase until about the year 1916 or '17, at which time it appeared to reach its maximum.

Q. Then in which direction did the production go?

A. Then it tended downward.

Q. And has tended downward ever since?

A. Yes.

Q. What has been the cause of that decline in production in West Virginia?

A. The decline in rock pressure in the various gas fields.

Q. That has been and is a natural incident to the production of natural gas?

A. It is.

Q. Out of your knowledge and experience, has the same thing occurred in Pennsylvania, Ohio and other states?

A. I think so.

1840 Q. Do you know it or not?

A. I have no definite knowledge of that, except from reports which have been put out by the United States Geological Survey.

Q. Those reports do show a decline toward the point of exha-s-tion in those states?

A. They do show a decline; I don't know how near exhaustion, but a serious decline.

Q. But in that direction?

A. Yes.

Q. Out of your broad experience with the Public Service Commission and with the gas business and the examination of reports, do you know, or have you found anything, that would indicate any prospect of an increase in the production of natural gas in West Virginia?

A. I have not.

Q. Everything you have examined on the subject has indicated that the decline will continue?

A. It has.

Q. During the period covered by your examination, in which direction has the consumption of gas gone in West Virginia, upward or downward?

A. The consumption went upward from about 1908 until about 1916, according to my information, and since that time has
1841 tended downward.

Q. During the period covered by your investigation in West Virginia, what has been the situation in Pennsylvania and Ohio, both in respect to production and consumption—has the tendency been up or down?

A. I can't tell you?

Q. Why?

A. I do not have that information.

Q. Have you looked for it?

A. No.

Q. You were not asked to get that?

A. No, I think not.

Q. You gave us a rather elaborate statement showing the increase in average consumption by consumers in West Virginia from year to year, did you not?

A. No, I don't think I did.

Q. What were the figures that you gave us in regard to average consumption, in regard to 1909 and 1919?

A. That Pennsylvania Exhibit 32—Anderson showed for the year 1909, 173.18 thousand cubic feet as the average amount used per domestic consumer.

Q. I don't care for the individual figures. How were those figures intended to show an average increase or decrease in the consumption?

1842 A. Those were simply intended to show the facts and they showed that there was a slight decrease in the average consumption in West Virginia from the year 1909 to the year 1919; sometimes it was greater and sometimes less.

Q. How was that average made up?

A. That average was made up by taking the total amount of gas sold for domestic consumers and dividing by the total number of domestic consumers in each year.

Q. Did you get the average consumption in Pennsylvania and Ohio during the same years?

A. No, I did not.

Q. You were not asked to do that?

A. No, sir.

Q. Do you have the figures for the average consumption in those states for any one year?

A. I have the average consumption for the year 1918.

Q. Why did you select that year?

A. That was the most recent information I had from the United States Geological Survey, which was my only source of information as to those other states.

Q. You undertook to give us, particularly on Pennsylvania Ex-

hibit 31, a set of figures giving operated and unoperated acreages in relation to what were called certain large interstate com-
1843 panies, and twenty small local intrastate companies. How was the selection of those twenty so-called small local intrastate companies made?

A. That was made by taking what I believed to be the number which would show the average condition.

Q. What do you mean by "small local intrastate companies"?

A. Those who serve customers and consumers solely in West Virginia.

Q. When you designate them as small companies, you mean merely to contrast them with certain companies which you refer to as the large companies?

A. Yes, sir.

Q. Those were the twenty companies whose names you supplied?

A. Yes, sir.

Q. You have given us a number of figures showing, or purporting to show, estimated increased demands on gas companies in West Virginia, by reason of enforcement or operation of the statute in question. How did you arrive at those figures?

A. In the first case, it was an estimate of yearly sales of natural gas in the State of West Virginia, on the basis of maximum, monthly, domestic and industrial sales. We obtained information
1844 from the twelve utilities mentioned as to just what the maximum domestic and industrial consumption had been in any one month since their organization.

Q. By that you understand that each of the public utilities in question gave you figures on the very largest industrial consumption in any one month for the number of years those companies had been operating?

A. Yes, sir.

Q. Did the figures specify which month or months those were in the individual instances?

A. I think in some instances and in some they didn't.

Q. I wish you would tell us which ones specified what the particular months were?

A. Here they are on Pennsylvania Exhibit 33—Anderson. Clarksburg Light & Heat Company, the largest domestic consumption was for the year 1918, in January; the largest industrial consumption for that same company was, for the year 1917, in the month of May.

Q. And so on down the entire list, which includes dates from 1912 up to 1912?

A. Yes, 1912 to 1920.

Q. And your calculation assumed at the outset that if this statute were enforced in each month of the year, each of the gas companies would be called upon to supply that maximum month's re-
1845 quirement?

A. That was my estimate of the possible increased demand.

Q. Putting it concretely, in the case of the Clarksburg Light & Heat Company, you figured that it would be called upon to supply

to domestic consumers twelve times 305,000,000 feet, and to industrial consumers 545,000,000 feet, as increased demand; is that right?

A. That would be the total demand.

Q. And so on down the entire list?

A. Yes, sir.

Q. And your estimate of yearly sales of natural gas in the State of West Virginia, on the basis of maximum monthly domestic and industrial sales constituted the second page of Pennsylvania Exhibit 33, and is merely a computation carrying out that theory?

A. It is.

Q. Wherein does that estimate of yearly sales of natural gas constituting page 2 of Pennsylvania Exhibit 33, Anderson, differ from the estimate of yearly sales constituting page 3? I see a somewhat different set of totals.

A. In the second case you mention, being that on page 3, the maximum industrial consumption, multiplied by 12, plus the actual domestic consumption for the year 1919, was used as the
1846 basis of computation.

Q. Well, applying your mind to pages 2 and 3 of this Pennsylvania Exhibit 33, one showing a total of 86,273,448,000 cubic feet, and page 3, showing an estimated total of 65,645,435,000 feet, I want to find what is the difference in those two estimates.

A. The difference in the first estimate is caused by taking the year's maximum monthly domestic and industrial sales occurring at any time in the life of the company, and multiplying it by 12. In the second case, we took the maximum monthly industrial sales and multiplied it by 12, and added the actual domestic sales for the year 1919, making a decidedly smaller figure.

Q. A mere small difference of 21,000,000,000 cubic feet of gas?

A. Something in the neighborhood of that.

Q. Which is your estimate, 86,000,000,000 or 65,000,000,000?

A. On one basis, it is 86,000,000,000, and on the other basis, 65,000,000,000.

Q. I am trying to get your own estimate.

A. The actual amount is impossible of accurate ascertainment. You can only draw your conclusions from certain facts and figures and your interpretation of them.

Q. You admit there are two interpretations, one showing
1847 eighty-six and the other sixty-five billions?

A. Yes; based upon different premises.

Q. As a matter of fact, did you ever obtain, or have you any figures showing, the actual present requirements of consumers in West Virginia, domestic and industrial, upon the theory of getting all the gas they desired or required?

A. None other than that to which I have testified.

Q. In other words, you have no figures based upon actual industrial conditions or past or present readjustments to other fuel, have you?

A. I have not.

Q. Every opinion which you have ventured upon the effect of the enforcement of the statute now in controversy upon consumers in

other states has been based upon these two sets of figures, showing in the one case an increase in consumption of 86,000,000,000 feet, and in the other 65,000,000,000 feet per annum. Is that correct?

A. It is largely based upon that.

Q. What other figures have you had, or do you have, upon which to venture an opinion as to the effect upon consumption in other states?

A. Some other figures are shown.

1848 Q. I would like to know exactly what they are.

A. It was the statement which showed an estimate of the total yearly curtailment in West Virginia of 32,959,471,000 cubic feet. I don't remember the number of the exhibit.

Q. What does that have to do with the subject?

A. This was showing the curtailment of natural gas to industrial consumers necessary to supply the winter demand of domestic consumers. As I stated before, during the winter season it was necessary to curtail industrial consumers by these large gas companies, in order to supply the domestic consumers, and my estimation of that curtailment was used as a basis of ascertaining the 32,959,471,000 cubic feet, as being one measure of the possible increased demand which might be placed upon the utilities in West Virginia, by reason of their being supplied with their full demands under the operation of the act in question.

Q. In other words, you have figured that the curtailment or cutting off of industrial gas, in order to give an adequate domestic supply in West Virginia, has amounted to 32,959,000,000 feet in some particular winter. Is that right?

1849 A. That was largely for the winter of 1918 and 1919.

Q. And so you figure that the effect of the enforcement of that statute upon that basis would cause an increased demand of 32,959,000,000 feet?

A. Yes, sir.

Q. Now, you have three sets of figures, 86,000,000,000, 65,000,000,000 and 32,000,000,000. Now, which is it?

A. They don't mean the same thing. I think you are under a misapprehension as to those figures. The increased demand, under the first estimate that you mention, was 98,628,380,000 cubic feet. In the second case, it was 55,017,359,000 cubic feet, and in the last mentioned case it was 32,959,471,000 cubic feet.

Q. All right then; the 98,000,000,000 feet of increased West Virginia demand has been calculated by multiplying by 12 the maximum consumption, both domestic and industrial, in the month of greatest consumption of individual gas companies?

A. It has.

Q. During any year of their history?

A. Yes.

Q. In that way you get 98,000,000,000 feet?

A. Of demand.

1850 Q. And in the next instance you get 55,000,000,000 feet, by multiplying the maximum month's industrial consumption during any one year of the history of the West Virginia companies, and adding the domestic consumption for the year 1919?

A. Yes, sir.

Q. And your third method of getting thirty-two billion and some odd million, has been by taking the amount of industrial curtailment necessary to apply to domestic consumption in West Virginia?

A. As applied to West Virginia, it was based upon the experience of large companies, not only in West Virginia but in other places.

Q. Now, what other figures have you upon which you base your figures as to the effect of the enforcement of this Act?

A. No other figures. They are only a possible measure of the effect of the enforcement of this Act. It is very difficult to tell—in fact, it is impossible to tell—the exact effect of the enforcement of that act.

Q. You say that you can't tell the exact effect of the enforcement of the act. Do you mean to say that you can't give anything except an estimate or a speculation on your part as to the result of the enforcement?

1851 A. I would say an estimate based upon the figures and statements which I have filed.

Q. Those are the three sets of figures about which we have just been talking?

A. Yes.

Q. In getting that 32,000,000,000 figure showing curtailment of industrial consumption, in order to take care of domestic consumption in West Virginia, your figures were based upon peak load requirements by domestic consumers, were they not?

A. I would say that that was based upon their maximum consumption—not the peak load, but the maximum consumption in any one month. The peak load refers more especially to the load placed upon the utility by the demands of the consumers during extremely cold waves and wouldn't cover an entire month.

Q. But you did take as a basis of that 32,000,000,000 estimate the coldest weather months when the domestic demand was the greatest?

A. Speaking of the 32,000,000,000, no, that 32,000,000,000 was based upon the curtailment of the amount of gas furnished to the industrial consumers during the different months, during a period perhaps of three or four or five months—sometimes six

1852 months, so that it varied, you know, and was not based upon the peak load of the domestic consumer. I should state, if I may, that there was one other estimate in Anderson Exhibit 34, on which an estimate of 38,467,334,000 cubic feet was made, of a possible increase in demand.

Q. I wish you would explain that exhibit and tell me what it means.

A. Well, that means this: during the years 1915 to 1918, the maximum yearly consumption for industrial consumers was compared with the consumption for the year 1918, which shows that there was a percentage increase of a maximum, and in one of those years, 1915 to 1918, as compared with the consumption in the year 1918, of 43.86 per cent, for those various companies which are here

outlined. Then that total industrial consumption for the year 1918, for the State of West Virginia, was 87,704,820,000 cubic feet, and applying that same percentage of increase of 43.86 per cent would give an estimated total increase, according to the West Virginia Geological Survey, of 38,467,334,000 cubic feet. It is to be noted that these figures are based principally upon records for four years.

Q. What I am trying to find out is this: Is it not a fact that
1853 your column headed "Maximum 1915-1918" is a selection, in the case of each company named, of the industrial consumption of the highest year between 1915 and 1918?

A. It is.

Q. In other words, in the case of the Bridgeport Natural Gas & Oil Company, you went over the reports for 1915 to 1918, inclusive, and finding that in one of those four years it had an industrial consumption of 101,270,000 cubic feet, and for that year the industrial consumption was the highest of the four years, you selected that as the figure for that company?

A. Yes.

Q. And so on for each company?

A. That is right.

Q. That table does not represent the industrial consumption for any one calendar year of the companies named in the aggregate?

A. It represents the maximum in any one of those years for each of the industrial consumers of each company.

Q. But it does not give you the industrial consumption for 1915, 1916, 1917 or 1918, does it?

A. No, it is the highest one in those four years.

Q. In other words, you picked out the highest figure you could get for each company during those four years and
1854 lumped them together?

A. Yes, for each industrial consumer.

Q. In other words, by that method of calculation, you get a higher industrial consumption than the industrial consumption of all of those companies for any one year?

A. I suppose that would be correct.

Q. Isn't that a fact?

A. I would think so.

Q. Isn't it necessarily the fact?

A. I think you are right.

Q. Why didn't you say so?

A. I had not looked at the figures to be absolutely certain, is all.

Q. In the same way, you got a similar result by a process of multiplying by 12 the maximum month's consumption in the previous exhibit referred to, where you got the 98,000,000,000 figure?

A. Yes, that is on the theory that the maximum demand that has occurred in the past might readily be duplicated under the effect of the Act in question, where they would have a full supply of gas for their needs or demands.

Q. By a full supply, you mean that every consumer in West Virginia served by the gas companies that would be affected by the Act would get all of the gas that that consumer desired?

1855 A. Yes, sir.

Q. Both for domestic and industrial purposes?

A. Yes.

Q. All of your statements as to the effect of that act and predictions as to the result of its enforcements on people in other states and on people in West Virginia, has been based on that premise?

A. Yes, sir.

Q. You gave us some opinions as to the effect of the cutting off of the supply of gas to consumers in other states whom you deemed dependent upon West Virginia gas for fuel. I want to ask you whether you think that the effect of a gas shortage on either domestic or industrial consumers in either Pennsylvania or Ohio would be any different or greater than the shortage of domestic or industrial gas on consumers in West Virginia?

A. No; the same conditions of shortage would affect them in identically the same manner.

Q. That is, if the consumer in West Virginia didn't have enough gas in the winter, he would be subjected to the discomforts of cold, and if he was compelled to substitute other appliances or alterations in his dwelling house or his industrial plant, in order to use
1856 other fuel, his inconvenience and expenses would be just the same as in Ohio and Pennsylvania, and so on?

A. If the shortage was the same the effect would be the same.

Q. You say you made some investigation of gas shortages in West Virginia. When did those investigations occur?

A. My recollection is that the most severe was along in the winter of 1917–18. That was an unusually severe winter.

Q. From what parts of the state did those complaints originate?

A. Principally from Clarksburg.

Q. You say principally—From what other parts of the state?

A. The northern Panhandle.

Q. Any other part?

A. There were one or two other places, I think, but I didn't investigate it.

Q. Who did?

A. I don't know—Yes, I do know now; that was Sutton and Gassaway, I think.

Q. Did you make any investigation at Parkersburg?

A. No, I didn't.

Q. Wasn't it your information, and isn't it your informa-
1857 tion, that a shortage was reported in Parkersburg, in Wood County, in that year?

A. I only investigated regarding those other places. I believe there was a shortage in that place, but I didn't investigate.

Q. Who did make the investigation if you did not?

A. I don't know, unless it was the chief inspector of the Public Service Commission.

Q. Did you hear of shortages in that year in Fairmont, Morgantown and Grafton?

A. I think so; I don't know definitely about that. Frequently complaints would come to the Public Service Commission, but they

were not of the opinion that they required my investigation, and sent one of the inspectors.

Q. Did the inspectors report to you?

A. No; I was only chief inspector for about the first two years.

Q. As chief engineer, did you not keep a line on conditions of production, supply and consumption in the state?

A. No, I didn't keep a line on it.

Q. Did you hear any complaints or know of any, or investigate any, in the year subsequent to 1917–18?

A. I think there were some in 1918–19.

1858 Q. Did you investigate that?

A. I don't recall that I did personally.

Q. Where did those shortages or complaints of shortages come from?

A. I think one was Clarksburg, but I am not positive. It was a warm winter and there wasn't much complaint in West Virginia of shortage.

Q. Well, you went to Clarksburg and investigated that shortage in 1917–18?

A. I think so.

Q. What condition did you find there?

A. In some places no gas at all, and in other places a very small supply. That was only in a portion of the town.

Q. What was the company supplying Clarksburg and the surrounding territory?

A. Where I investigated, it was the Clarksburg Light & Heat Company.

Q. What were the conditions of shortage you found in such as dwelling houses, industries and schools, public buildings, and so forth?

A. Some of the schools were closed. There was a shortage in the hotels and also a shortage reported in some of the hos-

1859 pitals and in a number of dwelling houses in different sections.

Q. The fact is, that the number of dwelling houses included practically all in Clarksburg?

A. No; some had a pretty fair supply. The shortage was particularly due to the inadequacy of the distribution system. They had failed to put certain reinforcing mains through the town to connect up with the belt line on the outside. That condition was corrected subsequently.

Q. When?

A. In the following summer, I think.

Q. As a matter of fact, aside from the condition of the mains, Clarksburg Light & Heat Company had practically no gas to supply at that time, had it?

A. No, I wouldn't say it had practically no supply, but they had insufficient gas and nowhere nearly a supply to fill the demands.

Q. What was the shortage?

A. I can't tell you.

Q. Were any other gas companies operating, or did they have mains or pipe lines in the vicinity of Clarksburg at that time?

A. I think the Hope Natural Gas Company had some mains in that vicinity and did sell some additional quantities of gas to the Clarksburg Light & Heat Company, so as to relieve that con-
1860 dition.

Q. How far did the Hope Natural Gas Company mains lie from Clarksburg?

A. I don't know.

Q. As a matter of fact, one of its main lines ran through the outskirts of Clarksburg?

A. It may do so.

Q. As a matter of fact, the Hope Natural Gas Company supplied gas to the Clarksburg Light & Heat Company to relieve that shortage after you arrived at Clarksburg to investigate on behalf of the Public Service Commission?

A. I think I was instrumental in getting it to do so.

Q. Your kindly offices or intercession induced the Hope Natural Gas Company to supply gas to the Clarksburg Light & Heat Company?

A. I wouldn't say that it took that; but they did supply it, partly at my request.

Q. The Clarksburg Light & Heat Company is one of the companies to which you referred as a local company?

A. Yes.

Q. At the time of your visit at Clarksburg, did anyone inform you that the Hope Natural Gas Company, or any of its affiliations, bore any relation to the Clarksburg Light & Heat Com-
1861 pany?

A. I don't think they informed me at the time. I think I knew of that through some report to me.

Q. That is, that the Standard Oil Company of New Jersey, which controlled the Hope Natural Gas Company, was also the owner of a majority of the stock of the Clarksburg Light & Heat Company at that time?

A. That is my understanding.

Q. And is today?

A. I presume so.

Q. What was the condition that you found in the Panhandle of West Virginia?

A. I didn't investigate the condition locally, except as to the supply of gas to the industrial consumers and the treatment of the industrial consumers for the States of Ohio and West Virginia and Pennsylvania by the Manufacturers Light & Heat Company. I found there very fair treatment between the different states, and if anything, a little bit of increased supply being given to the manufacturers in West Virginia over and above that furnished to the manufacturers in Ohio and Pennsylvania.

Q. At that time, were there complaints of domestic shortage in the West Virginia Panhandle?
1862

A. I don't know.

Q. You didn't look into that?

A. No.

Adjourned until Friday, September 17, 1920, at 10 o'clock, a. m.

ORIGINAL, #20 & #21.

October Term, 1920.

THE COMMONWEALTH OF PENNSYLVANIA

vs.

THE STATE OF WEST VIRGINIA.

THE STATE OF OHIO

vs.

THE STATE OF WEST VIRGINIA.

Proceedings of Friday, September 17, 1920.

1863 And now Friday, September 17, 1920, the hour of 10:00 o'clock a. m. having arrived, hearing resumed pursuant to adjournment.

J. K. ANDERSON resumes the stand.

Cross-examination (continued):

Mr. Hoffheimer:

Q. When we suspended yesterday, Mr. Anderson, we were referring to the local complaints of gas shortage in West Virginia, and I spoke of Clarksburg and the Panhandle Section of West Virginia. What were the complaints which originated at Morgantown and Fairmont?—The shortage at Morgantown which was complained of related both to domestic supply and industrial supply?

A. Yes, sir.

Q. At the time those complaints were made in regard to Morgantown, the main trunk lines of the Hope Natural Gas Company, the Pittsburgh & West Virginia Gas Company and the Carnegie Natural Gas Company were located within a very short distance of Morgantown, were they not?

A. I don't know the distance, but it was not so many miles.

Q. How many miles?

A. I don't know.

1864 Q. Well, you were Chief Engineer of the Commission; was it or was it not your duty to know the location of those lines?

A. It was not.

Q. What were your duties as engineer?

A. Do anything the Commission asked me.

Q. Did your duties as engineer have any regard to the preparation or the study of maps?

A. I don't believe they asked me to prepare any maps. I prepared some in connection with some reports.

Q. Well, you never did find out, then, the location of the lines of those three companies with relation to the city of Morgantown?

A. I did not.

Q. You never knew, and do not know to this day?

A. I do not.

Q. Well, let us travel down to the city of Fairmont; what were the complaints there?

A. The complaints there referred to lack of gas for domestic purposes.

Q. The people there were complaining that in the winter time they couldn't get enough gas to heat their houses and their public buildings and business buildings?

A. They were.

Q. There was also some complaint about industries?

A. There was some complaint on the part of industries,
1865 although I don't believe it was in connection with that complaint of shortage. The industrial manufacturers complained about shortages—being cut off.

Q. But from your position as chief engineer of the Commission, and your facility in reading and digesting readings, you knew in your official capacity that those complaints had been made and existed?

A. Yes, I knew they had.

Q. Did you at that time know, or have you at any time known, the location of the main trunk lines of the Hope Natural Gas Company, the Carnegie Natural Gas Company and the Pittsburgh & West Virginia Gas Company with relation to the city of Fairmont?

A. I have only seen some maps. I don't know about the location of the lines themselves.

Q. Where did you see the maps?

A. Well, I saw some of their maps in the offices of the—I think it was the Hope Natural Gas Company. I don't believe I have seen the maps of the Carnegie Company in their offices, nor of the Pittsburgh & West Virginia Company, but I have seen some maps prepared recently, I suppose in connection with this case, which show some of their lines. Then at one time there were some maps filed with the Public Service Commission showing only certain of their main trunk lines, but did not pretend to show all of their lines.

1866 Q. Well, with your knowledge of the situation and your knowledge of the maps, are you able to state relatively what the location of those main trunk lines of the Hope Natural Gas Company was with reference to the city of Fairmont at the time when these complaints were made?

A. I could not give you the exact location, but they were not far away.

Q. How far?

A. I don't know.

Q. You never have investigated that?

A. I never have investigated that.

Q. While you were engineer for the Public Service Commission where were your official headquarters, and where was your personal residence?

A. My official headquarters were at Charleston, West Virginia, in the State Capitol Building; my place of residence was in the city of Charleston, 1414 Virginia Street; my voting residence was in the County of Mingo, West Virginia. I don't know whether that covers the ground as fully as you desire it or not.

Q. Passing the question whether they allowed you to vote, while you were officially employed and actually residing in Charleston, were there any shortages of domestic gas supply there?

1867 A. I think the domestic consumers were very well supplied in the city of Charleston, except at one time when a large main broke and necessitated a shortened supply for some hours.

Q. When was that?

A. I can't tell you the date.

Q. Can you give us relatively the time?

A. No, I cannot; I didn't attempt to carry that in my mind. I recall it from my personal experience, not from any complaints made.

Q. How long did that shortage resulting from the breaking of the main continue?

A. I think that existed for three or four hours.

Q. Eliminating, then, the three or four hours, you testified that during the time of your official employment and your personal residence in the city of Charleston there was no complaint in regard to shortage of domestic gas supply?

A. That is my recollection.

Q. And no suffering or inconvenience in cold weather by reason of any shortage?

A. I think no serious shortage—or suffering or inconvenience at all on the part of the domestic consumers. Some complaints reached me indirectly on the part of the manufacturers.

Q. Now you are talking about serious complaints; did you hear of any complaints which you did not regard as serious?

A. Why, I think some of my neighbors complained of being a little short once or twice in the early mornings from their

1868 accustomed supply.

Q. That is, they couldn't get a sufficient supply to enable them to pursue their breakfast preparations, or to heat their houses?

A. Nothing like that, but a little short in the heating. They usually wanted to turn on all the stoves and appliances all over the house at once, as we all have been in the habit of doing; and when everyone did that at the same time it made a lower flame.

Q. Is that what they told you or your personal diagnosis of the situation?

A. Well, that is largely my personal diagnosis of it.

Q. Well then, the fact remains, they did complain?

A. Some of my neighbors did.

Q. Yes. Now, how about the city of Huntington?

A. I don't recall any complaints of shortages there.

Q. If there had been complaints, would they have come to your knowledge, or would you have been informed about them, in your official capacity as chief engineer of the Commission?

A. I might have been informed or might not, depending upon the pleasure of the Commission.

Q. Who would have investigated the conditions resulting from shortage or the cause of shortage, if such complaints had come to your knowledge?

A. Either myself or the assistant engineer, Mr. Taylor, while he was in the employ of the Commission.

1869 Q. Going back to the figures which you gave in regard to average gas consumption by the domestic consumers in West Virginia and other States, I suppose that those figures were produced by you in order to show a larger average domestic consumption in West Virginia than in Pennsylvania and Ohio—is that it?

A. Yes, sir.

Q. Have your investigations enabled you to determine why there was a larger per capita consumption in West Virginia than elsewhere?

A. I didn't make any investigation on that subject, but my supposition was that the low price for gas and the habit of having had very low prices prevailing in West Virginia for many years led to more extensive use of the gas. We use plentifully that which is cheap.

Q. And in the same connection, I believe you did give figures on average price of domestic gas, did you not?

A. I think there were some such figures filed in one of those reports or statements.

Q. And those figures were put forward by you to show that the average price was and is lower in West Virginia than in Pennsylvania and Ohio?

A. The idea which it was intended to convey was that the prices were lower in West Virginia than in the other States.

Q. That was and is true as to industrial gas as well as domestic?

A. I am not positive about that, but I believe so.

1870 Q. Well, the fact about it is that from the investigation of public records and reports and in the making of your compilations you have ascertained, and in your tabulations endeavored to convey the idea, that the gas companies were getting higher prices for their gas in Pennsylvania and Ohio than in West Virginia?

A. No, that was not my endeavor.

Q. You say it was?

A. I say that was not my endeavor.

Q. Well, that is the net result of your figures, isn't it?

A. I don't know. They speak for themselves.

Q. Your investigations and compilations did not go to that extent?

A. That was not my intention, to show that especially.

Q. What domestic gas consumption was included in your per capita or per consumer average?

A. Why, I presume whatever was included in those original reports. I cannot tell you in each case just what that included, because these companies make the reports on bases best known to themselves. I presume it included what we ordinarily know as domestic consumption.

Q. In other words, you took some other man's figures on faith, added them together and divided and found an average?

A. Took the most available and most accurate information that was available and performed that calculation.

1871 Q. How much free gas furnished by the gas companies to their lessors under their leases was included in your West Virginia average domestic consumption?

A. I don't suppose any of it was.

Q. Why do you say you don't suppose any of it was?

A. Well, some of that was based upon certain reports——

Q. Did or did not the reports to which you referred state that that free gas was included in that domestic consumption?

A. I didn't notice any such statement or information.

Q. Then you haven't any knowledge on the subject, have you?

A. No, I have not.

Q. The fact about it is that that free gas which is ordinarily provided for in oil and gas leases and is to be supplied to the lessor as part of the compensation for the lease is ordinarily used for domestic purposes, is it not?

A. I think so.

Q. In fact, the ordinary provision in the lease is for free gas for one dwelling house or two dwelling houses, or something of that character?

A. Something of that nature.

Q. And naturally, West Virginia being the largest gas-producing State, more free gas would be supplied under those leases in West Virginia than elsewhere, would it not?

A. I presume so.

Q. As a matter of fact, it is a matter of common knowledge that that free gas provision has been the source of rather waste-

1872 ful or excessive gas consumption—has it not?

A. It has; very wasteful and excessive use.

Q. A very serious cause of complaint?

A. On the part of the utilities.

Q. Yes. Now, you gave us some interesting figures as to dependency of certain populations on natural gas as fuel; what do you mean by "dependency"?

A. Why, I think dependency means having no other immediate source of supply of substitute fuel. We are certainly dependent upon some kind of fuel for heating, lighting and cooking and heating water. That is what I meant by "dependency."

Q. In other words, if a man had no other fuel for his cookstove, he would, within your definition, be regarded as dependent on gas for cooking purposes?

A. I think so.

Q. The same would be applicable to illumination?

A. Yes, sir.

Q. The same would be applicable to the heating of houses and buildings?

A. Yes, sir.

Q. The same would be applicable to an industry if natural gas was its fuel, and its appliances were not adapted to the consumption of other fuel or other fuel were not at hand?

A. Yes, sir.

Q. One and all of the people in those situations would
1873 come within your definition of "dependency" and be regarded by you as dependent on natural gas?

A. Yes, sir.

Q. And it would be true, I suppose, in West Virginia as well as in Pennsylvania and Ohio?

A. Yes, sir.

Q. How many natural gas consumers did you figure to have been existing at the period covered by you, in West Virginia?

A. The total number of domestic consumers of the natural gas utilities within the State of West Virginia for the year 1919 was reported to be 130,780.

Q. That was in accordance with the number of meters?

A. That is the number of consumers reported by these companies, probably based—or closely based upon the number of meters set. In some cases there might have been several meters for one consumer.

Q. Well, when you traveled over into Pennsylvania and Ohio and gave us figures of the number of domestic consumers, you proceeded to multiply that number by five, as an assumed average number of members of the families of consumers. Did you multiply that 130,000 in West Virginia by five also?

A. To show the population which is dependent upon natural gas, I would multiply by the same figure.

Q. 130,000 multiplied by five?

A. Yes, sir.

Q. That would be 650,000?

A. In that neighborhood.

1874 Q. I wish you would direct your attention to your compilations which have been filed here as Pennsylvania Exhibits Nos. 27, 28, 31, 32 and 33. (Handing exhibits to witness.) I find that in Exhibits Nos. 32 and 33 there is no inclusion of the Carnegie Natural Gas Company, while in Nos. 27, 28 and 31 the Carnegie Natural Gas Company is included in your tabulations and figures. Why is the Carnegie Natural Gas Company omitted from Nos. 32 and 33?

A. As to Exhibit 32, the Carnegie Natural Gas Company sell but little gas for domestic purposes in the State of West Virginia. They largely produce their gas for their consumption in the big steel mills of allied interests.

Q. In Pennsylvania?

A. In Pennsylvania. As to Pennsylvania Exhibit No. 33, we had

no report from the Carnegie Natural Gas Company as to their maximum domestic or industrial consumption as given in said statement.

Q. The steel mill or mills to which you referred as the place of consumption of the greater part of the Carnegie Natural Gas Company gas are located in the State of Pennsylvania?

A. Yes, sir.

Q. And have been for a number of years?

A. I believe so.

Q. Well, the same reports to which you have referred indicate that fact, do they not?

A. I think so.

1875 Q. Practically all of the Carnegie's consumption is industrial consumption in Pennsylvania at these steel mills?

A. It is.

Q. I believe you had something to say about the necessity for immediate marketing of natural gas when once wells are drilled in a particular field; I assume you intended to convey the impression that, as a practical proposition, when gas wells are drilled in a given field, it is necessary to get that gas to market and dispose of it as quickly as possible, in order to prevent loss to the operator?

A. That is true in a competitive field where numerous competitors are drilling on their leases for gas.

Q. What do you mean by "competitive fields?"

A. Where numerous different ownerships are had of the different gas wells which have been drilled in that field.

Q. Do you know of any gas fields in West Virginia during the period of your broad knowledge of those fields which have not been competitive in that sense?

A. Most of them have been competitive, with which I am acquainted.

Q. So that, the field being competitive and it being necessary to get the gas to market as soon as possible, the only way of getting the gas to market is by pipe lines?

A. Yes, sir; unless you include manufacture of carbon black or local use for manufacturing purposes near the field.

1876 Q. Well, the carbon black has been mostly manufactured from very low pressure gas, for which no market was available, or which could not be literally transported?

A. No, I think that is not entirely true. We frequently manufactured from gas in the fields having high rock pressure.

Q. In the manufacture of carbon black?

A. Yes, sir.

Q. Who are some of them?

A. I can't give you the names of those, but there were some carbon black factories that were located in Lewis County——

Q. And Kanawha, and Clay County, too?

A. Some in Clay, and some in Kanawha.

Q. The United Fuel Gas Company?

A. I think they have some manufactories.

Q. Of carbon black?

A. Of carbon black.

Q. But with those exceptions of carbon black factories, and strictly local consumption, the necessity for getting the gas to market and disposing of it as soon as possible, as you say, has always rendered it necessary that there should be pipe lines, and that pipe lines should be availed of and used for the transportation of gas to other localities where it could be consumed?

A. Yes, sir, if you find a market it is necessary to lay those pipe lines, in order to dispose of the gas.

Q. In other words, the man that had the pipe lines—or
1877 the company that had the pipe lines had to have the gas supply, and the people who had the gas supply had to have the pipe lines—is that right?

A. I think they were both contingent on each other.

Q. That is the question I asked, is it not?

A. It is an expression of it.

Q. You gave us some computations of operated and unoperated acreage in relation to what you termed the seven largest interstate gas companies and twenty local companies, as you termed them; is the Clarksburg Light & Heat Company included in that list of twenty local companies?

A. Yes, sir.

Q. That is the same Clarksburg Light & Heat Company which we mentioned yesterday in relation to the Clarksburg shortage?

A. It is.

Q. I see included also the Wetzel Natural Gas Company.

A. It is.

Q. Is that the same Wetzel Natural Gas Company which is a subsidiary of the Manufacturers Light & Heat Company?

A. It is not.

Q. Do you know who does own and control it?

A. I do not.

Q. Did your investigation of operated and unoperated acreage of local companies, as you term them, extend to any other companies than these twenty?

A. No, sir.

1878 Q. Did your investigation of records and reports carry you back far enough in the history of these twenty companies to determine whether they ever had any larger operated or unoperated acreage, preparatory to this?

A. They did not.

Q. If they ever had any larger acreage, either operated or unoperated, did you look to see what became of it or how it was disposed of?

A. I didn't examine that.

Q. Did you look to see what became of the acreage formerly owned by the West Fork Oil & Natural Gas Company and the Mountain State Gas Company, which were merged into the Clarksburg Light & Heat Company?

A. I did not.

Q. Did you look to see what became of any of the acreage, operated or unoperated, which was formerly owned by constituent com-

panies, or companies turned over to the Manufacturers Light & Heat Company?

A. I did not.

Q. Did your investigations, or perusal of records, extend to any figures which would indicate why these twenty local companies had no other acreage, either operated or unoperated, in their reports?

A. I made no investigation along that line.

1879 Q. Then you have no knowledge on the subject?

A. I have no personal knowledge on the subject.

Q. Did you ever have any?

A. I doubt if I had, unless at some time, looking at some of those reports, I may have noticed some figures on the matter you mention, but not with a view of applying it to the present case.

Q. If you did look at them, it was prior to October 1, 1919?

A. Yes, sir.

Q. You gave us some testimony as to the necessity of substituting appliances for the consumption of other fuel in Pennsylvania and Ohio, in case this West Virginia supply was cut off from those states, or those people deprived of natural gas as a fuel. Would your observation or your examination of records lead you to the conclusion that if the gas consumers of West Virginia were deprived of natural gas, they also would be compelled to make a substitution of other appliances, or to reconstruct their flues or other parts of their dwelling houses and factories?

A. It would.

Q. The same thing would occur in West Virginia as in Pennsylvania and Ohio?

A. It would. Under similar conditions the same thing

1880 would occur.

Q. Am I correct in recalling your testimony, that if the natural gas supply in Pennsylvania and Ohio became irregular or uncertain, it would create such dissatisfaction on the part of consumers in those states as would tend to cause those consumers to adopt other fuel, and would cause financial loss to the companies supplying them?

A. That was my judgment.

Q. If some other irregularity or uncertainty of service occurred in West Virginia, do you think the same result would follow there, with respect to the gas companies transporting gas out of West Virginia, or the local companies?

A. It would have the same effect, except as to the extent of properties affected. I think the extent of property affected in the case of these larger so-called interstate companies, the amount of money involved in the plant would be greater than it would be in many of the local companies in West Virginia. Otherwise the effect would be the same, except in the matter of degree.

Q. Of loss?

A. Yes, degree of loss.

Q. And with respect to these companies transporting gas

1881 out of the state, a similar dissatisfaction with their service in West Virginia would result from interruption or uncertainty of service, and cause them loss in West Virginia?

A. I think so.

Q. In other words, human nature is the same in all three states?

A. Absolutely.

Q. When you undertook to draw the conclusion or express the opinion that interruption or uncertainty of service would cause such dissatisfaction as to result in driving off consumers and causing their financial loss, you had it in mind that an interrupted or uncertain gas supply in time of need for consumption is practically equivalent to no supply, so far as the consumer is concerned?

A. When it reaches that degree of practically no supply.

Q. That is, if he cannot have the gas when and whenever he wants it?

A. Practically when and whenever he wants it. Any serious interruption, especially in times of extreme cold weather, would cause him to do that.

Q. You would think that was true at breakfast time, or at the time of preparation of meals in warm weather?

A. Largely, yes, sir.

1882 Q. Let us travel back to those figures of 98,000,000,000 and 55,000,000,000 and 32,000,000 of estimated increase of West Virginia consumption, by reason of the operation of this nefarious statute which we have in controversy. I suppose that you had in mind that this West Virginia statute required the delivery to West Virginia consumers of all the West Virginia gas, as long as any of the consumers in West Virginia required it or thought they needed it?

A. To supply an adequate amount for their various needs and demands.

Q. Putting it this way: You meant to imply that by your understanding of the statute and the result of its operation, if there were consumers along all the gas lines in West Virginia calling for or requiring 95,000,000,000 cubic feet of gas, and there were existent or actually produced in West Virginia at the time 95,000,000,000 feet of gas, that 95,000,000,000 would have to be devoted to the supply of those West Virginia consumers?

A. That is my understanding.

Q. Do I correctly understand you to express the opinion that the increase consumption of natural gas, as a result of the enforcement of this statute, would be to cut off or seriously diminish the

1883 supply of gas to consumers in Pennsylvania and Ohio, and cause financial loss to the companies serving those states?

A. Yes, sir.

Q. That was the substance of your testimony on that point?

A. I think so.

Q. Did you make any computation, or have you formed any opinion, as to the amount of increased consumption in West Virginia, which could be provided for by the gas companies, without depriving or inconveniencing Pennsylvania consumers, or causing financial loss to the companies supplying them?

A. I did not.

Q. Would any increase of consumption in West Virginia have the result of depriving Pennsylvania and Ohio consumers?

A. It would have the result of depriving them to that extent, I think.

Q. That is, for every 1,000 feet of added consumption in West Virginia, consumers in Pennsylvania and Ohio will be deprived to that extent?

A. I think so.

Q. And to the extent that the gas companies are prevented from furnishing that 1,000 feet in Pennsylvania or Ohio, those companies will suffer a loss in their plants, or the operation of their plants?

1884 A. And profits.

Q. I want to ask you whether the inconvenience in Pennsylvania and Ohio, resulting from the consumption of this extra 1,000 cubic feet of gas in West Virginia, would occur, whether that extra consumption were brought about by the enforcement of this statute, or brought about by additional consumers, or some other cause?

A. It would occur in the same way and to the same extent.

Q. In other words, if some citizen of New York or New Jersey should move to Clarksburg, West Virginia, and add to the population that way, and consume gas for domestic purposes, some Pennsylvania or Ohio consumer, or the consumers in those states in the aggregate, would be deprived and inconvenienced to that extent?

A. Providing he was located on the lines of some of these interstate companies.

Q. That is what I mean.

A. Where he could obtain some of their supply, or possible supply.

Q. Now, with regard to your knowledge and experience in the natural gas business, and your diligent reading of records, do you anticipate that the amount of natural gas produced in West Virginia will continue to be as great as it has been in the past?

1885 A. It will not, in my best judgment.

Q. The fact about it is that there has been a very heavy decline in gas production in the northern fields of West Virginia?

A. That is true.

Q. And it is your idea that that heavy decline is inevitably coming in the gas fields of southern Virginia?

A. It is.

Q. So that, in leaving this statute out of view, assuming that we wipe it off the books, do you anticipate that there will or can be a continued future transportation of West Virginia natural gas to Pennsylvania and Ohio, in the same amounts as in the past?

A. Not in the same amounts, but possibly in the same relative amounts, for a number of years to come; finally, there will be no gas transported out of the state, is my best judgment.

Q. Why do you say that?

A. I have in my mind the possible action of the Public Service Commission of West Virginia to somewhat limit the consumption

in the state. The industrial consumption in the state of West Virginia as compared to the domestic consumption at the present time is quite large, and a serious reduction in amount of
1886 gas consumed for manufacturing purposes would serve to maintain the present rate of export for a number of years to Ohio and Pennsylvania and other states.

Q. When you say "relatively," you mean to imply that you anticipate that for a number of years in the future Pennsylvania and Ohio will be able to get the same proportion of West Virginia natural gas as in the past, notwithstanding the natural decline of production?

A. That is, providing there is a corresponding decrease in the amount of gas used for manufacturing purposes in West Virginia, and assuming that natural gas will largely be used for domestic consumption, and even in that respect that the use of natural gas will be limited to cooking, lighting and hot water heating, and some incidental heating, eliminating the heating of residences; and in that way I think you will have a continued supply for many years. Of course, the total production will decrease and finally be eventually gone.

Q. Ultimately the amount of gas will become so small that it will be impossible to spread it out over the whole territory?

A. Yes, sir.

Q. Well, in the meantime, you spoke of depriving these dependents who are using gas for heating dwelling houses. Would
1887 that cost or incur any expense for these people?

A. It would, whenever it occurred; when it was necessary for them to make a change for other means of heating their homes, it would cause that expense.

Q. And whenever your natural gas supply becomes so reduced that it is not sufficient to spread it over the whole territory of West Virginia, Pennsylvania and Ohio with what you call relative proportions, those people in Pensylvania and Ohio and West Virginia whom you term dependents will have to incur expense in order to substitute other fuel, and so readjust their domestic arrangements and dwelling houses, will they not?

A. Yes, sir.

Q. The same readjustments and same expense, barring any change in prices of labor and material, as you described as the result of the enforcement of this West Virginia statute?

A. Yes, except the postponement of the evil day.

Q. You want to pass that on to posterity?

A. A very natural thing in regard to humanity.

Q. Now, still carrying out that idea of relative distribution of a diminished volume of West Virginia gas, have your answers involving relative distribution contemplated that that relative distribution throughout the three states would continue until nobody
1888 obtained a practical or available amount of gas for consumption?

A. I hadn't considered the relative distribution of gas in the figures presented. I figured on the results under the operation of the Act.

Q. I know, but I am leaving out the Act.

A. My opinion is that the relative distribution should so continue, and probably would so continue, if this Act would not become effective.

Q. Until the supply of gas reached the vanishing point everywhere in the three states?

A. I hadn't felt like going that far. I felt there would be some preference given to West Virginia in the obtaining of the final amount of gas in the territory. That would probably be possible by reason of the excessive cost of transportation, and the necessity of marketing your gas very close home. When it reached that ultimate period of extermination, or discontinuance, at last of production —exhaustion of the supply.

Q. That would depend on the gas companies?

A. I think largely, and financial and operating conditions at that time prevailing.

Q. Then it is your idea that that contraction of territorial service under conditions of diminished West Virginia gas supply,
1889 would only occur or be brought about, in order to save the gas companies from loss?

A. I think that would be brought about by financial pressure or financial conditions prevailing with them at that time.

Q. Under natural conditions, it would manifest itself in financial loss?

A. I think so.

Redirect examination.

Mr. Weil:

Q. Mr. Anderson, in giving your prognosis of the conditions resulting from the gradual decline and diminution in the gas supply of West Virginia, and its distribution in Pennsylvania and Ohio, did you take into consideration the consideration that in the future as in the past there might be discovered from time to time new fields, either in those states where operations are now being conducted, or in other states, which would supplement that gas supply for all of the states now using gas in this section?

A. I considered a possibility of discovering some new fields, but did not consider it as being very probable.

Q. Did you take into consideration also the fact that the
1890 present supply of natural gas and the supply that might subsequently be obtained, however diminished, might be supplemented by some manufactured gas that might be developed, which could be economically mixed with and supplied with the natural gas?

Mr. Hoffheimer: I object to that question as speculative, as not proper redirect examination, and as marvelously leading.

The Commissioner: Note the objection and let the witness answer.

A. In the matter of supplementing the diminishing supply of natural gas by artificial or manufactured gas, I had only felt that

the same would be feasible and practical in the larger towns and cities, and that for the smaller communities and for the scattered consumers along these main transmission lines, it would be impossible to supply them with any gas of any nature when the natural gas supply practically became exhausted.

Mr. Weil:

Q. Do you know that experiments are now being conducted
1891 by those interested in the natural gas business, of processes and methods of developing or procuring a manufactured gas to be mixed with the natural gas, which contemplate the establishing of such plants in the field where the coal is being mined, and the by-products can be preserved and saved, and the gas, as one of the by-products, thus used and turned into these natural gas mains, to supplement the natural gas supply?

Mr. Hoffheimer: That is objected to as a leading question in the superlative degree; for the further reason that it is not proper redirect examination; and also, on the substantial ground that the State of West Virginia knows of no prin-ple under which it is bound to await some one's experiments, or the result thereof, as a condition precedent to the power of the Legislature.

The Commissioner: Note the objection and let the witness answer.

A. I know of a by-product coal and coking plant——

1892 Mr. Weil:

Q. Just answer the question. Do you know of this or don't you?

A. Yes.

Q. It is the fact, is it not, that the men familiar with the natural gas fields, the natural gas industry and the natural gas business, as well as experts who are familiar with that general situation, see the *ultimation* extinction of the natural gas supplies for practical commercial purposes from the fields now developed or discovered, unless there are new fields developed or other methods obtained for supplementing the supply of natural gas with a manufactured product.

Mr. Hoffheimer: That is objected to as leading in the doubly superlative degree, and also as not proper redirect examination, because it does not appear that the witness has the knowledge to qualify to answer the question.

The Commissioner: Note the objection and let the witness answer.

A. It is.

1893 Mr. Weil:

Q. As an expert who has studied the natural gas business, the production, transportation, delivery and consumption of natural gas as a fuel for domestic purposes, do you believe that those who have become accustomed to the use of natural gas for domestic pur-

poses will ever return to the use of such fuels as formerly existed for domestic purposes, such as wood, coal and coke?

Mr. Hoffheimer: I object to that question on all the grounds stated in the three volumes of Greenleaf on Evidence, from pages 1 to 5,000, inclusive, including footnotes and appendixes.

The Commissioner: Note the objection and let the witness answer.

A. I dislike that word "expert." I am just a plain engineer, but I believe that those who have heretofore enjoyed the luxury of natural gas for the purposes mentioned, would not change to other fuels except under compulsion of some kind, either necessity or other compulsion, if the prices at which it could be obtained were at all reasonable.

1894 Recross-examination.

Mr. Hoffheimer:

Q. What do you mean by a luxury?

A. A luxury is that, perhaps, which we heretofore did without, or for which some other reasonable but not so desirable substitute we likely had.

Q. Is that the end of the definition?

A. I think so.

Q. Then you regard the use of natural gas for cooking, lighting, heating of hot water and warming houses as a luxury?

A. Very decidedly a luxury, I think, in one sense of the word, and has almost become a necessity by reason of our becoming accustomed to it.

Q. Well, a luxury is something that people can get along without, isn't it?

A. No, I wouldn't want to give that definition.

Q. Well, you told of a number of people in Pennsylvania and Ohio who were dependent upon natural gas for fuel. Do you think that that on which people are dependent is a luxury?

A. Well, I think a great many of them are dependent upon luxuries. I have always considered natural gas as a real luxury to the human race——

1895 Q. Well, let it go at that.

A. Also a necessity.

Q. Where were these new fields of gas which you considered as possible, but failed to take into consideration, which were mentioned in answer to one of Mr. Weil's questions on redirect examination?

Mr. Weil: That is objected to. The witness did not mention any fields or locate any, or state he had knowledge of any.

The Commissioner: Note the objection and let the witness proceed.

A. I don't know of any new fields. I think I stated that there was a possibility of their discovering new fields; where I don't know.

Q. If you were asked to go out and look for such fields or discover them, you wouldn't know where to turn around?

A. I don't believe I would have very extensive knowledge on that matter. That is usually the province of the geologist, to aid in that search.

Q. In all your testimony, based upon the decline in gas supply, you had in mind that there are no further available fields?

1896 A. I had in mind that there was not much possibility—or not much probability—of discovering any new fields of considerable production.

Q. Well, I won't ask you the difference between a probability and a possibility. Where did you get this extensive knowledge as to experiments in relation to by-product gas?

A. I don't have any extensive knowledge as to by-product gas.

Q. Have you any?

A. I looked into that matter in 1906, to some extent, as to the practicability of manufacturing by-product coke in the coal fields, and at that time it didn't seem to be practical. Since that time, I don't know, I haven't made any extensive study on that subject.

Q. People are still experimenting with it?

A. I don't know.

Q. You don't know whether anybody has succeeded or not?

A. In what?

Q. In making a by-product gas which could be used as a substitute for natural gas.

A. I know that such gas has been manufactured near certain large cities.

1897 Q. Where?

A. I think near Milwaukee, for one.

Q. Wisconsin?

A. Milwaukee, Wisconsin; Gary, Indiana, and there were some other towns—Hamilton, Ohio.

Q. That is all you know of?

A. I think there is a plant being erected at or near Fairmont, West Virginia.

Q. By the Hope Natural Gas Company?

A. I don't know whether that is the company or not.

Mr. Weil:

Q. Do you know of one near Pittsburgh?

A. I have understood that there was one near Pittsburgh, I don't know of it.

Mr. Hoffheimer:

Q. Whose plant is it?

A. Which?

Q. Whose plant is it near Pittsburgh?

A. I don't know.

Recess was here taken until 2 o'clock, p. m.

1898 Friday Afternoon, September 17, 1920.

And now, the hour of 2 o'clock p. m. having arrived, hearing resumed.

SAMUEL S. WYER, a witness called on behalf of Complainants, having been duly sworn, testified as follows:

Direct examination.

Mr. Weil:

Q. Mr. Wyer, what is your business?
A. Consulting engineer.
Q. Where do you reside?
A. Columbus, Ohio.
Q. Will you state the scientific organizations of which you are a member?
A. Member of the American Society of Mechanical Engineers, American Institute of Mining Engineers, American Association for Advancement of Science.
Q. Are you a member of the American Gas Association?
A. Yes.
Q. Did you occupy any position, and if so, when did it begin, with the Natural Gas Conservation Department of the United
1899 States Fuel Administration?
A. During the period of the war, I was in charge of all natural gas work for the United States Fuel Administration.
Q. Will you state what your duties were in that connection?
A. Primarily, to first study the waste situations in all of the various gas fields and larger centers of gas utilization; and secondly, work out ways and means for more equitably distributing what was then recognized to be a rapidly declining national natural resource.
Q. And how many years did you devote to that work?
A. Why, I have given practically all of my professional life to natural gas problems.
Q. For how many years?
A. I graduated from the Ohio State University, College of Engineering, in 1903, and went into private practice very shortly thereafter, and have given practically all of my time to public utility and natural gas problems since that time.
Q. Are you the author of any treatises on the subject of natural gas and kindred subjects?
A. I have written a textbook on Producer Gas and Gas Producers, which was published back in 1905; a pamphlet on Rate Regulation of Electric Power; a treatise on Regulation, Valuation and
1900 Depreciation of Public Utilities; a pamphlet on Depreciation of Natural Gas Wells; a pamphlet on Natural Gas Service; prepared a compiliation of all of the leading cases relating to the use of gas compressors; paper before the American Institute of Mining Engineers on "Is it Feasible to Make Common Carriers of

Natural Gas Transmission Lines?"; paper before the American Institute of Mining Engineers on "Development of the Law Relating to the Use of Gas Compressors in Natural Gas Production"; paper before the American Institute of Mining Engineers on "Effect and Necessary Use of Gas Compressors in Natural Gas Production"; paper before the American Society of Mechanical Engineers (jointly with Prof. Robert F. Earhart, Professor of Physics, Ohio State University, Columbus, Ohio), on "Deviation of Natural Gas from Boyles' Law"; paper on "Criteria for Making Public Utility Service Extensions," published in Case and Comment; paper on "The Reasonableness and Legal Right of the Minimum Charge in Public Utility Service;" paper before the American Institute of Mining Engineers on "Principles of Natural Gas Leasehold Valuation;" paper on "Electrolysis Damages from Stray Electric Currents from Single Trolley Electric Railways," published in Case and Comment;
1901 paper on "Effect of Gas Pressure on Natural Gas Cooking Operations in the Home" (jointly with Edna Noble White and Grace Linder, of the Department of Home Economics, Ohio State University),—this was published as Ohio State University Bulletin No. 28; Digest of all of the publications of the Bureau of Standards on Electrolysis of Underground Structures, caused by the Disintegrating Action of Stray Electric Currents from Electric Railways; paper before the Natural Gas Association of America, on "Elimination of Discrimination in Public Utility Rates by Readiness-to-Serve Charges;" paper on "Natural Gas, its Production, Service and Conservation," published as Part 7, Bulletin 102, of the Smithsonian Institution, Washington, D. C.; pamphlet on "Use and Conservation of Natural Gas," published by the United States Fuel Administration; paper on "Fire Hazard due to Stray Electric Currents from Single Trolley Electric Railways," published by National Fire Protection Association; Compilation of Cases Relating to Off-Set Well Drilling; pamphlet on "Waste and Correct Use of Natural Gas in the Home," published as Technical Paper No. 257, United States Bureau of Mines; Catechism on Natural Gas, prepared especially for those teaching conservation of natural gas, pub-
1902 lished and printed as part of the natural gas conservation program of the United States Bureau of Mines.

Q. Have you for some years given attention to investigation of natural gas problems, with special reference to economical features of production, transportation and distribution of natural gas by natural gas companies, natural gas service, valuation of property of natural gas companies, and other questions affecting the production, transportation, distribution and sale of natural gas, and in that connection made an examination of plants and valuations in different localities?

A. I have.

Q. Will you give us a list of such examinations and verifications?

A. Made an examination of valuation of all the property of the Kansas Natural Gas Company, in Kansas and Oklahoma; the Logan Natural Gas & Fuel Company, Ohio; Ashtabula, Ohio, natural gas and manufacturing gas plant Richmond, Indiana, natural and

manufactured gas plants; Terre Haute, Indiana, manufactured gas plant; Bloomington, Illinois, manufactured gas plant; Chillicothe, Ohio, water plant; Richmond, Indiana, private electric plant; Richmond, Indiana, municipal electric plant; Lorain, Ohio, electric plant; Warren and Chautauqua Gas Company's natural gas
1903 plants in Pennsylvania; Manufacturers Company natural gas plants in Pennsylvania; Fayette County Gas Company's natural gas plants in Pennsylvania; natural gas plant of Clarksburg, West Virginia; all of the natural gas properties of the Hope Natural Gas Company in West Virginia; all of the Peoples Natural Gas Company properties in Pennsylvania; the natural gas plant at Weston, West Virginia; all of the Eastern Oil Company's natural gas properties in West Virginia and Maryland; all of the natural gas properties of the Ohio Fuel & Supply Company in Ohio; all of the natural gas properties of the Philadelphia Company in Pennsylvania and West Virginia; natural gas property of the American Natural Gas Company in Pennsylvania; natural gas property of the Natural Gas Company of West Virginia, in Pennsylvania, Ohio and West Virginia; natural gas property of the Phillips Oil & Gas Company in Pennsylvania; natural gas property of the Potter Gas Company in Pennsylvania and New York State; natural gas property of the Randall Gas Company in West Virginia; natural gas property of the United Fuel Gas Company in West Virginia.

Q. In addition to those examinations and reports, have you made reports on natural gas service and plants?

1904 A. I have.

Q. Will you state where?

A. Made a report to the City of Columbus, Ohio (jointly with Prof. E. A. Hitchcock), on the natural gas service rendered it by The Columbus Gas & Fuel Company; to the Public Utilities Commission of Ohio, on natural gas pressure regulators; report on Municipal Natural Gas Plant Failures in Ohio; report on Vital Features of the Natural Gas Industry in the United States; report on Necessary Use and Effect of Gas Compressors on Natural Gas Field Operating Conditions in Ohio; report on House Heating Furnace Efficiencies, with special reference to efficiencies that can be obtained with natural gas as compared with solid fuels; report on Economy of Natural Gas Engine Plants, with special reference to the economies that can be obtained, as against other types of prime movers; report on the distinction between natural gas and manufactured gas service; report on cost comparison of producer gas and natural gas; report on the feasibility of making common carriers of the mail lines of the Kansas Natural Gas Company, the Ohio Fuel Supply Company and the Northwestern Oil Natural Gas Company; report on Gas Leakage, with special reference
1905 to current practice in a large number of manufactured gas plants; report on Principles of Valuing Public Utilities; report on Reasons Why Natural Gas Should Not be Sold on a Sliding Scale downward, Based on Mere Quantity; report on Electrolysis of Gas Mains from Stray Currents of Electric Street Railways, at St. Louis, Missouri; report on Electrolysis of Gas Mains

from Stray Electrical Currents of Street Railways, at Springfield, Ohio; report on Electrolysis of Gas Mains from Stray Currents of Electric Street Railways, at Lorain, Ohio; report on Electrolysis of Gas Mains from Stray Currents of Electric Street Railways, at Elyria, Ohio; report on "When Is the Drilling of Off-set Wells for Natural Gas Justifiable?" report on "Definition of What the Term 'Natural Gas' Means;" report on Reasons for Increased Cost of the Hope Natural Gas Company Gas Service; report on the Reasons for Increased Cost of the Peoples Natural Gas Company's Gas Service; report on Reasons for Increased Cost of the United Fuel Gas Company's Service; report on the Natural Gas Rate Situation of the Eastern Oil Company's Natural Gas Property; a report on the Natural Gas Resources of Northern Montana; report on the Relation of the Natural Gas Industry to the Present Military
1906 Needs of the Nation; report on the Natural Gas Service at Louisville, Kentucky, made for the United States Bureau of Standards, Washington, D. C.; report on Natural Gas Conservation Work of the United States Fuel Administration, Washington, D. C.; report on Natural Gas Waste Situation of the Kansas Natural Gas Company; report on the Present and Prospective Supply of Natural Gas Available in Pennsylvania, made for the Public Service Commission of Pennsylvania; report on Value of Service as a Factor in Public Utility Rates, with special reference to natural gas rates; report on Ownership of Invested Earnings and Invested Surplus in Public Utilities; report on Relative Costs of Natural Gas, Soft Coal, Coal Oil, Gasoline and Electricity for Cooking (jointly with Anna R. Van Meter and Edna Noble White, of the Department of Home Economics, Ohio State University); report on Reasons for the Increased Cost of the American Natural Gas Company's Gas Service; report on Reasons for Increased Cost of the Potter Gas Company's Gas Service; report on Reasons for Increased Cost of Natural Gas Company of West Virginia's Natural Gas Service.

Q. What, if any, connection have you at the present time
1907 with the United States Bureau of Mines at Washington, with reference to the natural gas industry?

A. I am acting as consulting engineer for the bureau, and am in charge of the natural gas conservation activities of the bureau all over the United States.

Q. Have you made for them any investigations, and if so, what?

A. There has not been a single complete investigation turned in, covering the industry as a whole. A large number of individual investigations, covering either particular local localities or particular phases of waste or utilization conditions have been turned in, and those are used in the bureau's work, in trying to teach the public and the gas companies how to produce and transmit gas with less waste and how to use it more efficiently.

Q. Have you been working with the United States Bureau of Mines in determining the quality of natural gas in Ohio?

A. I have, in the past.

Q. In the removal of gasoline from natural gas?

A. I have.

Q. With the United States Bureau of Standards at Washington, on the development of the standard type of apparatus de-
1908 termining the specific gravity of natural gas?

A. I have.

Q. On the natural gas safety code?

A. I have.

Q. Have you been working with the Smithsonian Institution at Washington, D. C., on the preparation of a model showing the various steps in prospecting for, mining, transmission and distribution of natural gas?

A. I have.

Q. And with the Internal Revenue Bureau of the U. S. Treasury Department on the valuation of natural gas properties for income taxation?

A. I have.

Q. Have you been working with any of those departments of the United States Government on any other subject, and if so, can you recall any now?

A. The list which has been given, I think, covers all of the important pieces of work that I recall at the present moment.

Q. Have you been employed from time to time as a natural gas expert on the production, transportation and distribution of natural gas by the Federal government, by several states, and by a
1909 number of Public Service Commissions?

A. I have.

Q. And by a large number of municipalities and some of the largest natural gas companies?

A. Well, not very many municipalities; most of the larger natural gas companies of the United States. I have done work for the City of Medicine Hat, Canada; Hamilton, Canada; Columbus, Ohio.

Q. Have you done any public work for the City of Hamilton, Ontario?

A. I have; I mentioned that.

Q. And Medicine Hat, Alberta?

A. I have.

Q. What was it?

A. At Medicine Hat, it was complete investigation of the entire field situation supplying that town.

Q. Field situation of what—natural gas?

A. Natural gas. Of course, that is the most unique natural gas plant in the world. It is a situation where a small number of wells, located in the heart of the town, are supplying the entire town, and the investigation was made because the supply from the wells showed very clear evidence of decline, and they wanted to
1910 know what to do in order to make the supply last for as long a period in the future as possible. At Hamilton, Ontario, it was an investigation of the situation relating to gas service to the entire community.

Q. And what was your investigation with reference to Columbus, Ohio?

A. An exhaustive study there, made jointly with Prof. E. A.

Hitchcock, on the field, transmission and distribution systems of what was then the Columbus Gas & Fuel Company.

Q. And what was your special work in connection with the Public Service Commission of Ohio, with reference to the natural gas?

A. Making a study of the use of gas pressure regulators for more efficient distribution of natural gas.

Q. Did you give us the work you have done for and with United States Bureau of Standards, United States Fuel Administration and the United States Bureau of Mines?

A. You have the important pieces of work.

Q. Did you, at the request of the complainants, in the cases of the Commonwealth of Pennsylvania against the State of West Virginia, and the State of Ohio against the State of West Virginia, make an investigation and study of the gas situation in West
1911 Virginia, and in Pennsylvania and Ohio, with reference to the statute which is in controversy here?

A. I have.

Q. Were you asked to make that study, with reference to what effect the statute would have upon the transportation of gas from West Virginia into Pennsylvania and into Ohio?

A. I was.

Q. And have you given much time and consideration to the investigation of those questions?

A. I have.

Q. Will you give us the definition of the term "gas" and of the term "natural gas," and the distinguishing features?

A. The fundamental conception of the word "gas" embraces the following: gas is a fluid composed of a large number of molecules which are vehicles of energy continually in motion, and having an inherent tendency to get farther and farther apart. The range of motion of the molecules is limited only by the volume of the closed containing vessel in which they constantly move to and fro. Every molecule possesses the inherent power of energy and is eter-
1912 nally energetic within itself—that is, the molecules are in a state of constant bombardment against each other and against the sides of the containing vessel. The most distinguishing characteristic of gas is its universal property of completely filling an enclosed space.

The term "natural gas" is used to denote a gas that is highly combustible and made by a secret process of nature. It is not a chemical compound, as popularly supposed, but a mechanical mixture of several combustible and diluent gases and vapors thoroughly diffused through each other. The number and exact proportion of the various crude natural constitutents vary for the different localities, and somewhat during the working lives of individual wells.

Mr. Hoffheimer: I move to strike out that answer as having no bearing and shedding no light on this case or the issues involved therein, and for the further reason that the answer is irresponsive to the question.

The Commissioner: Note the motion.

1913 Mr. Weil:

Q. What is the cause of gas pressure?

A. Starting with the fundamental definition of natural gas just given in the record, the inherent tendency of gas to expand is the basic cause of all gas flow. Gas flow in pipes or underground reservoirs cannot take place except between openings of higher to openings of lower pressure. This flow can be obtained only by sacrificing pressure. This is in accordance with the universal law that as long as energy of any form undergoes no transformation it tends to gravitate to a lower degree of intensity—that is, becomes more stable and approaches a universal level of stable equilibrium; thus, water always seeks the lowest level and confined gas always tends to expand to lower pressures. Even where gas compressors are used to increase the pressure by contracting the volume, the gas is not pushed through the pipe like a plug of incompressible fluid like oil or water, but goes through by virtue of the increased expansive force resulting from the higher pressure.

Mr. Hoffheimer: I make the same objection with respect to the answer last given. I also call the attention of the Commis-
1914 sioner to the fact that, in answering the two last questions, the witness has read out of a bulky treatise of some sort, in regard to matters concerning which, if he is competent at all, he is competent to testify without the aid of refreshing his recollection. We have no objection to the witness referring to appropriate memoranda, in reference to statistical or technical matter; but we do object to the witness's constant reference—and more than reference, his reading verbatim out of a book before him—as entirely improper. This objection is made not only in respect to the last two preceding answers, but to any further or future pursuance of the same course in this examination.

Mr. Weil:

Q. What is the document from which you are reading?

A. Merely a notebook.

Q. Of your own?

A. Yes.

Q. Prepared by yourself?

A. It was. The answers were read in merely in the inter-
1915 est of accuracy.

The Commissioner: Let the motion be noted and the witness proceed.

Mr. Weil:

Q. What is the effect of pressure on gas volume?

A. Gas pressure is the result of the combined efforts of all of the moving molecules in the gas trying to get farther and farther apart—that is, a mass of gas enclosed in a vessel expands and fills it, and being restrained from further expansion, it exercises a pressure against

the falls of the vessel. This pressure is the same in all directions on equal areas of surface. Not only is every gas molecule eternally energetic, but its energy may be augmented or retarded by external conditions. Contracting the volume of gas increases the intensity of its internal molecular motion, and therefore increases its pressure. Conversely, expanding the volume of a given mass of gas decreases the intensity of its internal molecular motion, and therefore decreases its pressure,—that is, with a given mass of gas any increase in volume of the containing vessel will give the
1916 molecules more range of motion, and thereby lower the pressure. Thus, if a part of a given mass of gas is removed from a closed vessel or reservoir, the remaining mass of gas will expand instanter and keep the vessel or reservoir filled, but at a lower pressure.

Mr. Hoffheimer: I renew the motion to strike out the last preceding answer, and call the Commissioner's attention to the fact that the witness read that answer out of his book.

The Commissioner: Note the motion. The answer was read from a book which the witness stated to be his own notebook, in which he has prepared a statement of the principle which he undertook to announce. The Commissioner assumes that the witness read from the notebook in order to condense his answer. The witness may proceed.

Mr. Weil:

Q. Have you prepared a diagram showing the amount of gas to be contracted by the application of pressure, and the effect thereof?

A. I have.

1917 (Diagram produced and marked as "Pennsylvania Exhibit No. 35—Wyer.")

Q. I show you paper marked for identification "Pennsylvania Exhibit No. 35—Wyer," and ask you if that is such diagram?

A. It is.

Q. Will you explain that, please?

Mr. Hoffheimer: That is objected to, and objection is also made to the diagram if proposed to be offered in evidence, on the ground that it has no materiality or relevancy, and does not shed any light upon the issues in this case, and tends to encumber the record with a mass of theoretical matter which can serve no useful purpose.

The Commissioner: Note the objection and let the witness proceed.

A. The diagram in question illustrates graphically one of the big fundamental features of natural gas transmission and one of the fundamental principles on which the whole transmission problem of natural gas is predicated, and shows the effect of taking a given mass of gas and raising the pressure from one-quarter of a
1918 pound, or four ounces, gauge pressure, to 300 pounds per square inch gauge pressure, and by so doing, contracting the volume from 1,000 cubic feet to 46 cubic feet.

Q. As a matter of mathematics then, this volume has been contracted 21.7 times?

A. That is correct.

Q. Has it had any effect whatever—this contraction—upon the total heat units that were originally contained in the gas?

Mr. Hoffheimer: Same objection.

The Commissioner: Note the objection.

A. It is not.

Q. Now, will you explain what makes gas flow?

Mr. Hoffheimer: Same objection.

The Commissioner: Note the objection.

A. The fundamental definition previously read into the record from the notebook gives the basic engineering features, to wit,
1919 that the fundamental reason for gas flow is its inherent tendency to expand, and the gas flow always and only takes place from points of higher to points of lower pressure,—that is, you cannot have any flow of gas without a loss of pressure.

Q. Now, what is it that is usually denominated as the gas rock or the gas sand in a gas field?

A. Natural gas, as it exists in the underground formation, exists in a state of relatively high pressure, the gas having been compressed by some unknown process of Nature into the small spaces between the grains of sand rock,—that is, the gas is not found in a cavern or huge cavity or large room; the gas is found always and only in the very minute spaces that exist between the grains of sand that are cemented in a compact mass relatively that go to make up the main body of the sand rock, which, by common consent, has been called gas sand, although in reality it is a sand rock.

Q. What information has the trade or engineering profession as to the extent to which this gas rock or gas sand extends over any given area, or as to the quantity of gas that is contained therein in any given acreage?

A. The only way that you can get accurate information as to the actual presence is by drilling down from the earth's surface
1920 and puncturing the rock. By the number of holes that would normally be drilled in the average field and the limits that could be approximately fixed for the outline of a pool, and the known thickness of sand, and the degree of porosity, very rough estimates may be made, knowing the rock pressure, as to the amount of gas that is possibly stored underground. However, those estimates all, from the very nature of the limited and meagre data, must be accepted with a very wide range of possible variation from the exact facts to be found later on in the actual removal of the gas.

Q. Is there any way of determining the degree of hardness or porosity—or closeness or porosity, I will put it—of this gas sand or rock, under any given area?

A. Not accurately.

Q. Is it not the fact that in any given field, as experience has demonstrated, a gas well would be drilled at one point, producing

a certain quantity of gas for twenty-four hours, and another well drilled perhaps 500 or 1,000 feet therefrom, and produce many times the same quantity of gas as the other well for twenty-four hours, or perhaps many times less? Is that not the experience in all gas fields?

A. It is.

1921 Q. Can the operator determine in the operation of a gas field in a given territory what character of well—that is, what volume it will produce—by knowing the volume that is being produced by any other well in the same field?

A. Not definitely; except by drilling the hole and actually testing.

Q. And it is the fact that these wells in the same territory and in the same field do vary enormously?

A. I have frequently seen dry holes within two hundred feet of producing wells. That is not an unusual situation.

Q. And after going 200 or 300 or 400 feet farther, you can find producing wells?

A. Yes, sir.

Q. Now, what do you understand by the term "rock pressure"?

A. When nature compressed the gas into the minute microscopic spaces existing between the sand grains, the pressure employed was very high, and a very much larger volume of gas was forced into these minute spaces than the mere net volume of the underground reservoir would contain—that is, by some unknown process nature forced in and compressed the gas into this underground reservoir, and in so doing created a definite high pressure. That pressure of the

1922 gas, as it exists in this underground reservoir, is known as the rock pressure, and this pressure is inserted and is the result of the molecular activity in the gas, as discussed in the first fundamental definitions read from the notebook.

Q. Does a high rock pressure or a low rock pressure, as the case may be, determine the quantity of gas—the volume of gas—that will flow during any period of twenty-four hours, let us say, from any well?

A. No.

Q. Does a high rock pressure—or, conversely, a low rock pressure—indicate a large or small volume of gas in a given area?

A. It does not.

Q. Has the experience of the trade demonstrated that where there is a well in a sand that is called by the trade open or porous, or of great porosity, it exhausts itself much more quickly than where the sand is close and the volume of gas therefore produced smaller?

Mr. Hoffheimer: That is objected to as going into immaterial details having no bearing on the issues, and tending to encumber the record.

1923 The Commissioner: Note the objection and let the witness proceed.

A. The possibility of getting the volume of an open sand well out quickly depends entirely on the pressure conditions prevailing at the mouth of the well. If those conditions are such that relatively low

pressures are maintained, then the well from the open sand will discharge its gas in a very much shorter period of time than one where the sand is compact.

Q. Is there then known to the trade or the profession of natural gas engineers any method of determining, either from the character of the sand or the volume of gas produced or the rock pressure, the amount of gas that can be obtained from any given area?

A. Estimates can be made that would apply rather closely, if a large number of wells are involved. However, estimates made on one or two wells will have the probability of ultimately being very far from the fact.

Q. As I understand your answer then, the estimates would not be of much value, unless the territory had been substantially drilled over?

A. And you had the data from a rather large number of wells, so as to get a fair average, rather than the figures pertaining to merely one or two wells.

Q. Now, how is natural gas severed from soil?

1924 A. Natural gas is severed from the soil in two definite steps. After the hole is drilled, the first step—assuming that a producing well has been found—is to place what is known as a packer at or near the bottom of the well——

Q. Just a moment, before going into that. Have you prepared a diagram showing this process?

A. I have.

Q. Will you produce it?

A. The heading of the exhibit is, "How natural gas is severed from the soil, brought under control and delivered into a fixed closed container."

(Diagram produced and marked "Pennsylvania Exhibit No. 36—Wyer.")

Q. I show you paper marked for identification "Pennsylvania Exhibit No. 36—Wyer," that being the diagram which you have referred to, and I will ask you to make your explanation from that diagram.

Mr. Hoffheimer: That is objected to, and the diagram itself, if proposed to be offered in evidence, is objected to as encumber-

1925 ing the record with immaterial details and shedding no light upon this case or the issues therein. The defendant concedes, for the purpose of this case, that natural gas is severed from the soil by the drilling of wells and piping the gas through and from the wells.

The Commissioner: Note the objection and let the witness answer.

A. Referring to Pennsylvania Exhibit No. 36, the packer is shown at the left. This is the first step in severing the gas from the soil. The black substance at the side of the packer is a rubber ring, which in the set of the packer is compressed against the walls of the gas well hole, and in so doing seals the space between the pipe and the rock, so as to make it impossible for the gas to come up to the sur-

face, except as the gas first, because of its inherent tendency to expand, goes into the packer, then starts up towards the surface through the tubing. The final step in the matter of severance is shown at the right on this same exhibit. This diagram shows the well fittings on the ground, and after the gas comes up through the tubing from
the packer, usually set about one-half mile below the earth's
1926 surface, this gas, by virtue of its inherent tendency to expand, forces itself out through the shut-off gate, through the check valve, and the gas is then delivered into a fixed closed container.

Q. Is the gas at that point then on its way to market?

A. Assuming that the gate valves beyond it are open, the gas would then immediately begin its journey to the ultimate consumer, frequently many miles away, and possibly in another state.

Mr. Hoffheimer: I move to strike out the statement as to the gas being on its way to market many miles away and possibly to other states, as irresponsive to the question, being merely a suggestion by the witness.

The Commissioner: Let the motion be noted.

Q. Have you prepared a diagram showing the manner in which natural gas is transmitted to the ultimate consumer?

A. I have.

Q. Will you let me have it?

(Diagram produced and marked as "Pennsylvania Exhibit No. 37—Wyer.")

1927 Q. I show you diagram marked "Pennsylvania Exhibit No. 37—Wyer," just produced, and ask you to explain that.

Mr. Hoffheimer: The question, and diagram itself, if proposed to be offered in evidence, are objected to as involving immaterial details and tending to encumber the record; for the further reason that the diagram bears notations which, if competent, relevant or material, have no place upon the diagram, but are the subject of affirmative testimony.

The Commissioner: Let the objection be noted and the exhibit considered.

Q. In view of the objection as to the notation here "in another state," I would ask you if this same process, as exhibited by this diagram, would be followed where the gas is transmitted to the consumer in another state?

A. It would.

Q. Now, answer the question.

A. Pennsylvania Exhibit 37 shows in diagram-atic form the important features of natural gas transmission from the gas sand
usually one-half mile below the earth's surface to the ultimate
1928 consumer's gas using appliance. Referring to the exhibit, gas well is shown at the left. Here the hole has been drilled down from the earth's surface, until the gas sand has been reached, and by puncturing the gas sand, the gas is enabled, due to its in-

herent tendency to expand, in accordance with the fundamental definitions previously read into the record from the notebook, to come to the surface. At the surface, the gas then passes through the gate valves, out into the gathering line, and begins its journey to the ultimate consumer. As the gas passes through the line, the pressure must drop, for the fundamental reason that there can be no gas flow without a loss of pressure. Under ordinary conditions, the rock pressure in the sand forces the gas out into the gathering line. As the rock pressure declines, due to the removal of the gas, the pressure in the line will of course also decline, and, in order to enable the gas to be transmitted to the ultimate consumer, it is necessary to instal what are known as compressing stations, to recompress the gas by mechanical means, so that, by virtue of the higher pressure, the gas may then continue its former journey toward the ultimate consumer. After the gas passes the com-
1929 pressing station, it again travels through the line by expansion, going through the gas cooling basin immediately ahead of the compressing station,—the object of this cooling basin being merely to cool the gas, which has become heated by the mechanical work of compression. The gas then goes into the main transmission lines, is carried to the gates of the various distributing plants, should be measured at the gates of the town, as shown in the diagram, is delivered to the medium pressure regulator, shown in the upper right hand corner of the diagram, where the pressure is reduced and regulated to the pressure limit carried in the medium pressure line, usually 15 or 20 pounds. From the medium pressure regulator, the gas travels again by expansion through the medium pressure lines to the low pressure regulator, where the pressure is again reduced to that carried in the low pressure line. From this the gas then passes through the low pressure line into the service line going to the ultimate consumer's premises, through his gas meter, and is then delivered to the gas meter. The whole series of steps between the gas sand, shown in the lower left hand corner of the exhibit, and the kitchen stove shown at the bottom near the middle of the exhibit, represents a continuity of service features,—that is, the
1930 gas is never at rest, but is a constantly seething, moving mass, and that movement must be continued clear through the entire system, in order to enable the ultimate consumer to get the gas delivered under working conditions at his appliance.

That statement, of course, would apply to any type of appliance used, whether it were a kitchen stove, a mantel lamp or a large industrial furnace. The underlying principle relating to the transmission of gas through these lines to the ultimate consumer's appliance would be the same.

Q. From the moment the gas leaves the mouth of the well until it reaches the ultimate consumer, is it ever at rest?

A. It is not.

Q. Where the ultimate consumer resides outside of the state where the gas well is located, when the gas starts on its journey from the mouth of the well, is it ever at rest until it reaches such ultimate

consumer beyond the state line of the state where the gas well is located?

Mr. Hoffheimer: That is objected to as repetition.

The Commissioner: Let the objection be noted.

1931 A. No.

Q. Why does rock pressure and volume necessarily decline,—or, let me put the question in another form: does rock pressure and volume necessarily decline, and if so, why?

A. You cannot remove gas from an underground reservoir without ultimately making the rock pressure itself decline. The reason for this is in accordance with the fundamental definitions previously read from the notebook, namely, that the gas itself is continually in motion, as far as the molecular activity of the gas itself is concerned, and because of gas pressure, as previously explained, as the result of the molecular bombardment against the walls of the containing vessel; and, since there is no regeneration but merely the compression of a fixed mass of gas into a closed containing reservoir, a removal of a part of that gas will, of course, not alter the total volume of the reservoir, but by virtue of such partial removal, the residue gas left in the underground reservoir will instanter expand and keep the underground reservoir completely filled, but at a lower pressure. That lower pressure represents the lower rock pressure that will prevail after a period of time following the removal of a part of the volume of gas in the underground reservoir.

1932 Q. The degree of decline and rapidity of decline depends, does it not, upon the several contingencies—First, the pressure under which it is contained in the sand or rock; and, secondly, the amount that is removed?

A. Correct.

Q. When this removal continues, what is the fact as to there being necessarily a continuance, ever-increasing decline?

A. You cannot remove gas from the reservoir without lowering the pressure. Therefore, the continued removal of the gas in the ordinary routine of commercial operation for marketing the gas, must result in an inevitable lowering of the rock pressure. The two go together and are inseparable.

Q. Why are natural gas compressors used, and are they necessary?

A. Natural gas compressors are used merely to recompress the gas, and in that way supplement the declining natural rock pressure, so as to fit or prepare the gas for transmission through the lines to the ultimate consumer.

Q. Do you know how long natural gas compressors have been in use by natural gas companies?

A. The natural gas compressing art is over thirty years old.

Q. Are they all substantially of the same character?

1933 A. Practically all follow the same fundamental principle.

Q. Have you made a diagram of a natural gas compressor such as is in general use?

A. I have.

(Diagram produced and marked as "Pennsylvania Exhibit No. 38—Wyer.")

Q. I show you paper marked for identification "Pennsylvania Exhibit No. 38—Wyer," and ask you if that is the diagram of the natural gas compressor which has been prepared by you?

A. It is.

Q. Will you explain the operation of that compressor on that diagram?

Mr. Hoffheimer: That is objected to on the grounds stated in the objection to the explanation of previous diagrams, and the diagram itself is objected to, on the grounds previously stated.

The Commissioner: Note the objection and let the exhibit be considered.

A. The diagram on Pennsylvania Exhibit No. 38 shows
1934 the salient features, as far as principles of operation are concerned, of a typical natural gas compressor. The various steps in compressing gas with this device are described in detail at the left of the exhibit, where the letters refer to the letters on the diagram.

Q. Well, describe it.

A. The action of a typical gas compressor is illustrated in the diagram at the right of Pennsylvania Exhibit No. 38. A is a reciprocating piston, working in cylinder B. C and D are inlet valves to the cylinder, and E and F are discharge valves to the cylinder, drawn to their seats by the springs K K. All the gas wells are connected to the intake side of a compressor, so that the pressure from the wells drives the gas to the compressor. As the piston moves in the direction of the arrow, the inlet valve C is opened by the higher pressure of the gas in the intake G, and the gas then rushes from G through C into the space H. As the piston moves toward the end of its stroke, the gas in space I is forced out into the discharge line J, through the discharge valve E. When the piston A reaches the end of its stroke, the spring K closes the valve C, and on its return stroke the piston A compresses the gas in H until the pressure is great enough to open the discharge
1935 valve F, and thereby drive the gas out into the discharge line J.

The previously described cycle is, of course, repeated at a rather high rate of speed continuously, larger compressors frequently having at least two double-acting pistons and operating at rates of more than 100, 150 revolutions per minute.

Q. The gas then is compressed by both the up and down stroke?

A. Correct—Because the diagram shows a double-acting compressor. Of course, there are a large number of single-acting compressors in use, but the principle of operation is the same.

Q. What is the capacity of some of the compressing stations with which you are familiar, on some of the lines?

A. I cannot give the exact capacity, but many of the larger stations will run up into thousands of horse power. In fact, a typical unit is a twin double-acting gas engine that will vary from

1,100 to 1,300 horse power for each unit, and many of the larger stations have a rather large number of these units in the same station.

Q. Could natural gas be transmitted through pipe lines for long distances without the use of these natural gas compressors?

A. It would not be expedient. It would be physically
1936 possible to build a large number of lines to do it, but the cost would be prohibitive, and building the compressing station is the economical way of transmitting it.

Q. Do you recall the time in the infancy of the natural gas business when the transmission lines were constructed with the smaller lines at the intake and gradually increasing to very large lines at the outlet end of the line, at the point of consumption?

A. Yes, that was true in the early stages.

Q. Instead of using compressors at that time, it was sought, was it not, particularly in the Pittsburgh district, by the Westinghouse interests, to transport the gas—to transport the gas in that way?

A. It was.

Q. Do you recall now what was the size of the pipes at the outlet?

A. At least 42 inches in diameter. I know positively that 42-inch pipe was used, a great deal of 36-inch was used, and a great deal of 30 was used.

Q. That method of transportation was superseded, was it not, by the introduction of natural gas compressors?

A. It was.

Q. The other method of transmission was found impractical, was it not?

1937 A. Too expensive.

Q. We sometimes hear—have heard in this examination—of natural gas transmission lines and natural gas transportation lines, of transporting natural gas and transmitting natural gas; will you give us the distinction between "transmission" and "transportation," as applied to the natural gas industry?

A. "Transportation" fundamentally, from the roots of the word, means literally to transport over, or carry over. "Transmission" likewise means more nearly literally to transmit through. Natural gas is never transported over the line, it always passes through. Furthermore, there is entire or absolute continuity in that transmission from the gas sand in the field to the ultimate consumer's utilization appliance. Because it is transmitted through rather than carried over, it is my personal belief that the word "transmission" more actually describes the transference of natural gas from the field to the ultimate consumer many miles away, by the usual commercial means of pipe lines.

Mr. Hoffheimer: I move to strike out that answer as irresponsive to the question, and as irrelevant. We fail to see how that etymological discussion enters into this case.

1938 The Commissioner: Note the motion.

Q. By reason of this distinction, as applied to natural gas transmission and transportation, what would you say as to being able

to take out or off from a line by any part of the gas therein without affecting the whole transmission system?

A. You cannot.

Q. And to bring out—in view of the objection that has been made—the purpose of this distinction: if there are being transported over a line of railway a thousand cars of coal, when you take in the State of West Virginia 100 of those cars, it does not affect the delivery of the other 900 cars, does it?

A. That is correct.

Q. But if you take out of the line through which gas is being transported, out of a thousand feet thus being transported, 100 feet before it leaves the line of the state of West Virginia, what is the effect on the other 900 feet which was being transported through that line?

A. You immediately disturb the pressure conditions, and thereby alter the flow capacity of the line—that is, the diversion of natural gas from a transmission line is not merely a separation of
1939 the commodity from the line, but by virtue of that separation, you get an inevitably disturbed pressure condition, which, if the amount of gas diverted is large enough, may annihilate the service at the extreme end of the line to the ultimate consumer.

Q. Even though the amount of gas taken out would not be the entire capacity of the line?

A. That is correct.

Q. Have you prepared from the exhibits that have been offered in evidence in this case—that is, from the map exhibits that have been offered in evidence in this case—and from the records of the respective companies, photographic reproductions in size of maps showing how the West Virginia gas is transmitted by these respective companies to other states, by the Fayette County Gas Company, the Hope Company, the Reserve Company, United Fuel Gas Company, Manufacturers Light & Heat Company, Philadelphia Company, Carnegie Natural Gas Company, and the Eastern Oil Company?

A. I have.

Q. Will you give me those?

(Eight maps produced and marked as Pennsylvania
1940 Exhibits Nos. 39-A to 39-H, inclusive, showing main lines and properties of the several gas companies, as follows:

No. 39-A—Fayette County Gas Company;
No. 39-B—Hope Natural Gas Company;
No. 39-C—Reserve Gas Company;
No. 39-D—United Fuel Gas Company;
No. 39-E—Manufacturers Light & Heat Company;
No. 39-F—Philadelphia Company;
No. 39-G—Carnegie Natural Gas Company;
No. 39-H—Eastern Oil Company.)

Q. Now, take Pennsylvania Exhibit No. 39-A, showing the Fayette County Gas Company. This shows in the black lines, does it, the lines of the Fayette Company—the pipe lines of the Fayette Gas Company?

A. Correct.

Mr. Hoffheimer: This is objected to, and the map itself, if proposed to be offered in evidence, is objected to, because no proper foundation has been laid for the introduction of the map, nor has any proper foundation been laid for questions based upon the map; and for the further reason that the map itself contains nota-
1941 tions or legends which have no place on the map, but which, if competent, relevant and material, are the subject of testimony by the witness, or some other witness having competent knowledge.

The Commissioner: Note the objection and let the witness answer.

Q. Was this map of the Fayette County Gas Company prepared under your direction?

A. It was.

Q. Was it made from the records of the Fayette County Gas Company?

A. It was.

Q. Does it correctly represent the lines of the Fayette County Gas Company, the location of its wells, towns supplied by it, and the contour and direction of its pipe lines?

A. It does not show any of the local wells in Pennsylvania. It shows all of the other features that you have mentioned. The Fayette Company has a few local wells in Pennsylvania; those are not shown on this map.

Q. It shows the location of the territory of the Fayette Gas Company in West Virginia, does it?

1942 A. The Fayette Gas Company has no territory in West Virginia at the present time. It shows, however, the territory in West Virginia which was formerly—at least in part—owned by this company, and which is now used for furnishing gas service to the Fayette County Gas Company.

Q. Does this map, Pennsylvania Exhibit No. 39-A, show the geographical location of the pipe lines of the Fayette County Gas Company?

A. It does.

Q. Both in West Virginia and in Pennsylvania?

A. Correct. But you must bear in mind that the Fayette County Gas Company does not at the present time own any pipe line property in West Virginia, and the pipe lines that are shown here are those pipe lines of the Hope Natural Gas Company that are used particularly for service to the Fayette County Gas Company across the state line. That is, the gas is produced by the Hope Natural Gas Company, transmitted to the Wade measuring station, and then delivered there to the Fayette County Company. They take it on into Pennsylvania.

Mr. Hoffheimer:

Q. What company is that in West Virginia?

A. Hope Natural Gas Company.

1943 Mr. Weil:

Q. The gas is produced in West Virginia by the Hope Company in Marion and Monongalia Counties, is it?

A. Correct.

Q. And you say, delivered to the Fayette County Gas Company at Wade Station on the Pennsylvania-West Virginia state line?

A. Correct.

Q. And it is then delivered to the towns, cities, named in Fayette and Westmoreland Counties in Pennsylvania?

A. Correct.

Q. What are some of the largest cities supplied by it in Pennsylvania?

A. Uniontown and Connellsville are the two principal towns.

Q. What about Vanderbilt?

A. That is also supplied.

Q. And Scottdale?

A. All of the towns supplied are shown on this map in the black circle.

Q. You say Connellsville and Uniontown are the two largest cities?

A. Those are the two principal centers of utilization.

Q. Do you know how large a city Scottdale is?

A. I cannot give you that from memory.

1944 Q. The legend which is contained in the left upper corner of the map shows the producing gas wells in Pennsylvania, the natural-gas-using towns, transmission lines, compressing stations, and measuring stations, and the red lines show the direction of the gas flow?

A. Correct.

Mr. Hoffheimer: I move to strike out all evidence of the witness relative to gas production, gas flow and gas supply by the Fayette County Gas Company to cities and towns in Pennsylvania, as not based upon any personal or competent knowledge of the witness himself, and as manifestly constituting hearsay.

The Commissioner: Let the motion be noted.

Q. You made an examination, did you not, as you previously testified, of the Fayette County Gas Company's gas plants?

A. I have been consulting engineer for that company for about eight years.

Q. Are you personally familiar with its plant?

A. I have been in every town, made a valuation of its property.

1945 Q. I next call your attention to Pennsylvania Exhibit No. 39-B, being the map of the main lines of the Hope Natural Gas Company in West Virginia, and I will ask you if you are familiar with the lines of the Hope Natural Gas Company, and if you have made an examination of its plant and property in West Virginia?

A. I have.

Q. Does this map correctly show the transmission lines of the Hope Natural Gas Company?

A. It does.

Q. Was it prepared under your personal direction?

A. It was. In fact, it was prepared from the same map which was used in the valuation of the property of the Hope.

Q. I call your attention to the legend in the left upper corner of this map; you have designations there showing the compressing stations, measuring stations, towns supplied with natural gas, and the red lines indicate the direction of the gas flow.

A. Correct.

Mr. Hoffheimer: That is objected to, and any questions based upon this map as well as the map itself, are objected to, because
1946 the map contains notations, which do not constitute a proper subject matter of the map, but which, on the contrary, are a matter for testimony by a witness otherwise competent.

The Commissioner: Note the objection, and let the witness proceed.

Q. Are these statements in red, which are printed upon this map, anything more than repetition of that to which you have already testified in this case?

Mr. Hoffheimer: That is objected to as calling for an opinion or conclusion of the witness, and as an improper method of examination.

The Commissioner: Let the objection be noted, and the witness may proceed.

A. The red ink figures are merely the salient engineering facts of natural gas transmission, all of which have been covered in the previous testimony.

Mr. Hoffheimer: I move to strike out the answer, on the ground stated in the objection.

The Commissioner: Note the motion.

1947 A. (Continuing:) The map merely takes the fundamental principles and localizes those as far as local geographical features are concerned.

Motion to strike out renewed.

The Commissioner: Let the motion be noted.

Q. At what points on the state line of Ohio does the Hope Natural Gas Company deliver gas?

A. Well, its principal delivery into the State of Ohio is to the connections of the East Ohio Gas Company.

Q. And where are those?

A. There are two connections immediately opposite the village of Clarington, which is to the right of the letter "H" in "Ohio," on the Ohio River. The other two connections are a short distance to the north, southeast from the final "O" in the word "Ohio."

Q. What about the delivery at the point marked "Marietta, Ohio"? To whom is the delivery made there?

A. There is a small amount of gas sold at Marietta, at Bellpre, farther down the river, and several other places farther up. The major part of the delivery, however, is to the East Ohio Gas
1948 Company at the two points first described.

Q. Are there any deliveries also at Eureka and Belmont?

A. There are.

Q. And New Matamoras?

A. Well, Eureka and Belmont are not on the Ohio side; New Matamoras is on the Ohio side.

Q. Where are the principal deliveries made as between the West Virginia and the Pennsylvania state line?

A. The largest delivery is at a point just south of the Brave compressing station, where the gas is delivered to the Peoples Natural Gas Company. Another delivery farther east is where the Hope Company delivers to the Fayette County Gas Company.

Q. And what about the other delivery to the Peoples Natural Gas Company above Littleton?

A. There is a delivery made there. The Hope line runs to the state border, and the Peoples line then takes the gas from there and takes it over.

The Commissioner:

Q. At Brave station?

A. Yes.

An adjournment was here taken until Tuesday, September 21, 1920, at 11 o'clock, A. M.

ORIGINAL, #20 & #21.

October Term, 1920.

THE COMMONWEALTH OF PENNSYLVANIA

vs.

THE STATE OF WEST VIRGINIA.

THE STATE OF OHIO

vs.

THE STATE OF WEST VIRGINIA.

Proceedings of Tuesday, September 21, 1920.

1949 And now Tuesday, September 21, 1920, the hour of 11:00 o'clock A. M. having arrived, hearing resumed pursuant to adjournment.

Present: The Commissioner, Levi Cooke, Esq.; on behalf of The Commonwealth of Pennsylvania, A. Leo Weil, Esq.; on behalf of The State of Ohio, Freeman T. Eagleson, Esq.; on behalf of the State of West Virginia, Philip R. Steptoe, Esq., and George M. Hoffheimer, Esq.

SAMUEL S. WYER resumes the stand.

Direct examination (continued).

Mr. Weil:

Q. When we adjourned on Friday last, I was examining you at that time with reference to the map of the Hope Natural Gas Company, being Pennsylvania Exhibit No. 39-B. While I asked you if this map correctly shows the transmission lines of the Hope Natural Gas Company, I omitted to ask you if it correctly
1950 shows not only the transmission lines but also the compressing stations, measuring stations, towns supplied with natural gas, and the direction of the natural gas flow.

A. That is correct.

Q. It shows that?

A. Yes, sir.

Q. And correctly shows it?

A. Yes, sir.

Q. I now call your attention to map showing the main lines of the Reserve Gas Company in West Virginia, identified as "Pennsylvania Exhibit No. 39-C—Wyer," was that map prepared under your direction?

A. It was. The entire map is predicated upon the company's original map records and surveys, and correctly shows the general location of the main lines, compressing stations and the larger measuring stations, the general direction of gas flow and the connections to interstate transmission lines.

Q. Are you familiar with these lines, and have you been over the same personally at different times?

A. I have.

Q. And know that this is a correct representation of the lines of the Reserve Gas Company, which you have just described?

1951 A. It is.

Q. Now, where does it obtain its gas, in what counties?

A. In Harrison and Lewis Counties, West Virginia.

Q. What, if any, towns in West Virginia, does the Reserve Gas Company supply?

A. It does not supply any towns of any consequence. There are some small hamlets, but they are not shown on this map.

Q. Does it supply the towns of Camden and Wilsonburg?

A. I believe that is true, but I am not absolutely sure about that.

Q. I notice that notation on the map. Now, does this show the general gathering lines?

A. Because of the smallness of the scale, only the larger lines could be shown. Individual wells and the individual gathering lines from the wells to the main lines could not be shown on this small scale.

Q. But it shows the larger gathering lines?

A. Yes, sir, and everything in the way of main transmission lines from the compressing stations forward to the western terminus at the Ohio River crossing.

Q. Now, what compressing stations does this company have?

A. Wilsonburg, Camden and Kennedy.

Q. What about Corrin?

1952 A. Corrin is correct, too.

Q. Where are the measuring stations?

A. The main line measuring station measures the gas going out of West Virginia, and is located at Dry Fork, near the western boundary line of Lewis County.

Q. Where does this deliver gas on the state line between West Virginia and Ohio?

A. It delivers at the Ohio River to what is known as the Connecting Gas Company, which is merely a transportation company, having two 16-inch lines running from the Ohio River to Sugar Grove, Fairfield County, Ohio.

Q. And that gas is taken, is it, to Ohio and Indiana?

A. Correct.

Q. At what point is that, in what county?

A. The western terminus of the Reserve Gas Company's main line is in Wood County, where the lines cross the Ohio River.

(Pennsylvania Exhibit No. 39-D shown witness.)

Q. I now call your attention to "Pennsylvania Exhibit No. 39-D—Wyer," which purports to be a map of the natural gas property of the United Fuel Gas Company in West Virginia, Kentucky and Ohio, as of January 1, 1919. Are you familiar with
1953 this property of the United Fuel Gas Company?

A. I am. The map in question is one that was made when I was making an appraisal of the entire property in the three states.

Q. You have been over all of this property?

A. I have.

Q. And this map was made under your personal direction, as I understand?

A. It was based——

Q. In connection with your appraisal of the property?

A. The map was built up from the original survey notes of the United Fuel Gas Company, and accurately represents the general location of their main lines, compressing stations, towns that are supplied in these three states and the general outline of the fields from which they draw gas.

Q. I call your attention to the map more specifically as shown by the legend in the southwest corner of the map; this map shows the United Fuel Gas Company trunk lines, the Columbia Gas & Electric Company trunk lines, the United Fuel Gas Company compressor stations, the Columbia Gas & Electric Company compressor stations, the United Fuel Gas Company's gas drying plant,
1954 the Columbia Gas & Electric Company's gas drying plants, the United Fuel Gas Company's gas fields, and the distributing plant owned by the United Fuel Gas Company?

A. Correct.

Q. As indicated in the legend; that is true, is it not?

A. It is.

Q. The Columbia Gas & Electric Company is one of the constituent companies, is it not, of the United Fuel Gas Company?

Mr. Hoffheimer: That is objected to as calling for an opinion or conclusion of the witness, and not for a statement of facts, and the record has not shown that the witness has any competent knowledge in the matter.

The Commissioner: Note the objection.

A. The Columbia Gas & Electric Company owns the United Fuel Gas Company in part.

Q. The two properties of the United Fuel Gas Company and the Columbia Gas & Electric Company are operated together as a unit, are they not?

Same objection.

1955 The Commissioner: Note the objection.

A. They are.

Q. Now, then, returning to the map, does the United Fuel Gas Company or the Columbia Gas & Electric Company, as the case may be, own and operate natural gas properties in the states of Kentucky and West Virginia?

A. It does.

Q. Does it have any in Ohio?

A. It has distributing plants and main lines in Ohio.

Q. No, I mean production—gas production.

A. No production.

Q. It produces gas then in Kentucky and West Virginia?

A. Correct.

Q. And where is this gas distributed?

A. First, the United Fuel Gas Company has a large volume of business in the State of West Virginia to both industrial and domestic consumers; secondly, at the end of the main line marked "T," running over towards and into Gilmer County, at the point marked "Cedarville," the United Fuel Gas Company delivers gas under a sale contract to the Hope Natural Gas Company and to the Pittsburgh & West Virginia Company, the latter company being usually spoken of as the Philadelphia Company.

1956 Q. Now, where is that Gilmer County, in what state?

A. West Virginia,—upper right hand corner of the map (referring to Exhibit 39-D). The United Fuel Gas Company also has a main line marked "E," running north and west as far as the Ohio River, in the top central part of the map (Exhibit 39-D). The company here—that is, the United Fuel Gas Company—sells gas to the Ohio Fuel Supply Company, at Ball's Gap——

Q. Now, just a moment. Where is that gas taken by the Ohio Fuel Supply Company, in what state?

A. The Ohio Fuel Supply Company then take that gas from the Ohio River, carry it up through the state of Ohio, and distribute it generally to the various towns that they serve in the State of Ohio, some of it going as far west as Cincinnati, Ohio. At Ball's Gap, the United Fuel Gas Company delivers gas to the Columbia Gas & Electric Company.

Q. And where is that, in what county?

A. The southern part of Cabell County, West Virginia, right close to the boundary line. At Inez——

Q. Now, just a moment. You say it delivers gas there to whom?

A. Columbia Gas and Electric Company.

Q. Where is that gas taken?

1957 A. Taken westward through West Virginia, through Kentucky, distributed to a number of small towns in Kentucky en route, but the larger volume is carried clear through and over into Ohio, where it is delivered into Cincinnati, Cincinnati having two sources of supply from West Virginia—one through the Columbia Gas & Electric Company's main line that brings the gas up

through Kentucky, south of the Ohio River, into Cincinnati, and the other one, the Ohio Fuel Supply Company's main line, that brings the gas in from the northeast into Cincinnati.

Q. Now, go ahead. Where is its next one?

A. At Inez, in Martin County, Kentucky. The United Fuel Gas Company sells gas to two Kentucky companies, one which carries the gas to Louisville, Kentucky, and the other one which carries gas to Lexington and Frankfort, Kentucky, including a number of other smaller towns. In addition to the sale deliveries mentioned, the United Fuel Gas Company also has a number of towns in Kentucky and Ohio, where they distribute gas directly to the ultimate consumers.

Q. Now, this gas delivered at Inez, of which you speak, is that gas all produced both in Ohio and West Virginia? I mean, not only in West Virginia but also in Kentucky, from what is known as the Kermit field?

1958 A. That is correct.

Q. And is the gas taken from that point at Inez by other companies to Louisville and to Lexington?

A. Correct.

Q. What are the names of those other companies, if you know—if you can recall?

A. I am afraid that I can't give you exact name as to the corporate name.

Q. All right. They are companies operating in Louisville and Lexington?

A. Two entirely separate, distinct pipe lines, with no intercorporate relation between them. That is, the line that goes to Louisville, Kentucky, while it has a separate name, is controlled and owned by the Byllesby interests that operate the distributing plant in Louisville, Kentucky. It might not be amiss to add, that when these lines were connected, the gas supply in the Kermit field was such that gas went northward as well, through the 10-inch line marked "B," towards the Ohio River, but that now, due to the decline in this southern field, the direction of flow has been reversed, and the gas is now going south to this line, and a part of the gas used in Louisville, Kentucky, comes from the field over the center of the map.

1959 (Pennsylvania Exhibit No. 39-E shown witness.)

Q. I now direct your attention to the map marked for identification "Pennsylvania Exhibit No. 39-E—Wyer," being map of the main lines of the Manufacturers Light & Heat Company in Ohio, Pennsylvania and West Virginia, and ask you if that map was prepared under your personal direction?

A. It was, and is based on the company's original surveys and all the other office records, as far as location, main lines, compressing stations and towns supplied are concerned.

Q. Have you examined the properties of this company?

A. I have.

Q. And made an appraisement of their properties?

A. I have.
Q. And you are familiar with their lines and the location thereof?
A. I am.
Q. Does this map correctly represent the compressing stations, reducing stations, Pitot tube measuring stations, towns supplied by Manufacturers Light & Heat Company, transmission lines and general direction of the gas flow through those lines, of the Manufacturers Light & Heat Company, as shown by the legend?
1960 A. It does.
Q. Now, I ask you: it does not show the territory from which it obtains its production, does it?
A. The outline of the field could not be shown on this map, because the scale was so small that it would have been impossible to have made a legible map, and therefore the wells, the smaller gathering lines, and the field outline are not delineatd on this map.
Q. The end of these various projecting lines from these various lines, as shown upon the map, indicate, do they not, some connection at that point with wells or fields?
A. They do.
Q. And with other gathering lines extending thereto?
A. That is correct.

Mr. Hoffheimer:

Q. That is, in all cases, or in this particular instance?
A. Well, in practically all cases where you see a lateral line running out from a larger main line, and there is not a town shown at the end of the line, you can be reasonably certain that that line is used only for bringing gas into the main line from wells.

Mr. Weil:

Q. Now, Mr. Wyer, will you take the line along the Ohio River between West Virginia and Ohio, beginning with the line in Doddridge County, West Virginia, passing the Sedalia compress-
1961 ing station and the Porter's Falls compressing station, and point out on the map where it crosses back and forth from West Virginia into Ohio, and from Ohio into West Virginia, giving the towns along the line that are supplied, both in West Virginia and in Ohio, if you can.
A. Well, the towns supplied on the Ohio side are all shown on the Ohio side of the river, starting in with Sardis, in Monroe County, Ohio, Duffy, Hannibal, Clarington; Shady Side, in Belmont County; Bellaire, Bridgeport, Martins Ferry; in Jefferson County, Yorkville, Rayland, Brilliant, New Alexandria, Mingo Junction, Steubenville, Wintersviile, Richmond, Costonia, Toronto, Knoxville and Empire; then in Columbiana County, Wellsville and East Liverpool. The lines supplying these towns, in some cases, of course, are connected to small producing pools on the Ohio side, and in a number of instances, gas at different times of the day will be going in different directions—that is, due to changed pressure conditions, the network of piping is so connected that a reversal of the gas flow will sometimes take place. On the West Virginia side, the main lines run gen-

erally northward along the eastern side of the river, extending clear up to the farthest northern point of the West Virginia Pan-
1962 handle, in the northern part of Hancock County, supplying the towns of Chester, Newell and Congo, and then coming down——

Q. That is, in this extreme northern part?

A. Yes, sir. And then coming down from the northern point on the West Virginia Panhandle, we have New Cumberland, Weston, Weirton, Hollidays Cove, Wellsburg, Warwood, Wheeling—industrial consumers only, however, in Wheeling, as far as the Manufacturers Light & Heat Company is concerned—Benwood, McMechen, Glendale, and Moundsville, and then New Martinsville, at the extreme south.

Q. And Middlebourne?

A. Middlebourne is away from the state line.

Q. Can you recall how many times this line crosses and recrosses the Ohio River, from West Virginia into Ohio, and from Ohio into West Virginia?

A. Not all of the detailed crossings could be shown on this map. I checked that up on the large detailed map based on the individual surveys, and, if my memory is correct, it is somewhere in the neighborhood of forty times across the boundary line.

Q. Crosses and recrosses the line from one state into the other?

A. Yes, sir.

1963 Q. Can you recall how many different fields this company has in Ohio which puts gas into this line?

A. I can't answer that as to the number. There are a number of small pools in the eastern part of the state that have a small number of wells.

Q. And that gas is conducted into the general line?

A. It is.

Q. Now, the gas passing through this line, as you have described, is it connected in any way with the system supplying Pennsylvania?

A. The system as a whole, of course, is laid out and built and interconnected without any reference whatsoever to state lines.

Mr. Hoffheimer: I move to strike out that answer as not responsive to the question.

The Commissioner: Note the motion.

Mr. Weil:

Q. Go ahead.

A. That is, the main lines cross and recross and are connected to the various pipes on the Pennsylvania side.

Q. Just as it is on the Ohio side?

1964 A. Yes, sir.

Q. And the whole system is connected, is it?

A. It is merely one huge network spread over parts of three states.

Q. West Virginia, Ohio and Pennsylvania?

A. Correct.

Q. Now, then, following the lines traveling from West Virginia into Pennsylvania, give us the situation there?

A. There is a small connection down at Blacksville——

Q. Where is that?

A. Right on the northern boundary of Monongalia County, in West Virginia. There is another small connection a short distance west of Blacksville. There are a number of crossings in the western part of Greene County, Pennsylvania. Then you have a 10 and a 20-inch line coming into Pennsylvania near the Majorsville compressing station——

Q. The Majorsville compressing station is——

A. On the Pennsylvania side.

Q. That is, in Greene or Washington County—Washington County, isn't it?

A. It would be right in the southwest corner of Washington County, Pennsylvania.

Q. Now, before you go there,—There is a compressing sta-
1965 station at Hundred, is there not?

A. On the West Virginia side, yes.

Q. And that drives the gas into West Virginia and the lower end of Greene County, Pennsylvania, does it not?

A. Yes, and then back into West Virginia again.

Q. And also drives the gas into West Virginia, to the lower end of Marshall County?

A. Correct.

Q. The southeastern corner of Marshall County, West Virginia?

A. That is correct.

Q. All right, go ahead with the line.

A. I have covered that.

Q. I mean, go ahead with the line at Majorsville that you were talking about when I interrupted you.

A. Then farther north there is a crossing just about due east of Steubenville, and there the gas is coming from Pennsylvania into West Virginia.

Q. And what is that station known as?

A. Well, there is no station there where the line crosses. There is a reducing station over on the western boundary of West Virginia. There is no station on the Pennsylvania line.

Q. That runs from the place in Pennsylvania known as Hickory, does it not?

1966 A. Correct.

Q. What are the sizes of those lines?

A. Two 8-inch lines.

Q. Which runs across from Pennsylvania, you say, and deliver gas into——

A. Deliver the gas into West Virginia.

Q. And that also delivers gas not only into West Virginia but into Steubenville?

A. Yes.

Q. The same line?

A. There is a river crossing there, and gas is carried into Steubenville, Ohio.

Q. And into Wintersville?

A. Correct. Farther north you have an 8, 10 and 12-inch line crossing the Western Pennsylvania boundary line in a northwestwardly direction from what is known as the Frankfort compressing station, going over into the general direction of East Liverpool, Ohio.

Q. And does that run through parts of West Virginia?

A. It runs through the northern part of Hancock County and into Ohio.

Q. Does that supply the town of Chester?

A. It does.

Q. Chester, West Virginia, as well as East Liverpool and
1967 Wellsville, Ohio?

A. It does.

Q. Where does that gas come from?

A. Primarily from Pennsylvania.

Q. Into Ohio and West Virginia?

A. Yes, sir.

Q. And from that point the gas is taken into—well, from the various points you have described, the gas is taken generally in Greene, Washington, Allegheny, Beaver, Butler, and Lawrence Counties, Pennsylvania?

A. Correct. The Manufacturers Light & Heat Company have no towns in the southern part of Butler County. The only one they have in the north is supplied from a local field.

Q. And they also supply gas in the counties of Harrison, Tyler, Wetzel, Monongalia, Marion, Marshall, Ohio, Brooke and Hancock Counties, West Virginia?

A. They do.

Q. And in the towns and villages in the counties of Monroe, Belmont, Jefferson and Columbiana, Ohio?

A. Correct.

Q. Now, from the manner in which the lines are constructed and operated, would it be possible, for any given period, to tell
1968 whether the gas produced by this company and transmitted through its lines into any one of those three states, comes from any particular one of the three states?

A. Well, that would depend on where you would expect to make the test. In the southern part of the system, any test made there would, of course, show that all of that gas was from West Virginia. Any test made in the eastern part of the system in Pennsylvania would show that all of that gas is from Pennsylvania. However, in the northern part of the West Virginia Panhandle, you would have both West Virginia and Pennsylvania gas intermingled.

Q. And Ohio gas?

A. And some Ohio gas.

Mr. Hoffheimer:

Q. What counties do you embrace in that last statement in regard to the Panhandle?

A. Hancock and Brooke; and such a situation might arise in Ohio and Marshall Counties, but not as probable there.

(Pennsylvania Exhibit No. 39-F shown witness.)

Mr. Weil:

Q. I now show you map marked for identification "Pennsylvania Exhibit No. 39-F—Wyer," designated as the map of
1969 the natural gas property of the Philadelphia Company in Pennsylvania and West Virginia. How was that map prepared?

A. This map was prepared in connection with an appraisal of the company's property that I made, and is based on the company's original survey records, and the best records available in their office, showing the exact location of lines, compressing stations, towns supplied by the company, the general outlines of gas fields in West Virginia and Pennsylvania that are used for supplying the Philadelphia Company with natural gas.

Q. Have you been over that property and those lines?

A. I have.

Q. And examined the same?

A. I have.

Q. Does this map correctly represent the natural gas distributing plants, compressing stations, general direction of the gas flow, and the outlines of the gas fields, the towns supplied with gas, as well as the county and state line locations?

A. It does.

Q. Does the Philadelphia Company supply gas to any towns, and so forth, in West Virginia?

1970 A. It does.

Q. As well as in Pennsylvania?

A. Correct.

Q. Now, will you point out on the map where the lines cross from West Virginia into Pennsylvania?

A. There are three groups of crossings on the southern boundary line of the State of Pennsylvania. The first group is over in the southwest corner of Pennsylvania, where a 16-inch and then a 10-inch, and then another 16-inch, come up from West Virginia and cross into Pennsylvania. A short distance east of this there is an 8-inch line that comes up from West Virginia into Pennsylvania. And a short distance east again there are several lines close together that cross from West Virginia into Pennsylvania. After crossing into Pennsylvania these lines then generally go up towards the Pittsburgh district.

(Pennsylvania Exhibit No. 39-G shown witness.)

Q. Now, I show you map of the main lines of the Carnegie Natural Gas Company in Pennsylvania and West Virginia, marked for identification "Pennsylvania Exhibit No. 39-G—Wyer," and ask
1971 you if that correctly represents the lines of the Carnegie Natural Gas Company, as shown by its maps, records, and so forth?

A. It does, based on a personal examination of those records and all of the data available pertaining to the general location of the main lines, compressing station, and outlines of pools supplying gas to the Carnegie Natural Gas Company's system.

Q. This map then, as the legend shows, correctly represents the compressing stations, measuring stations, outline of the natural gas fields, and general direction of the gas flow?

A. Correct.

Q. This map shows that the Carnegie Natural Gas Company is producing gas in Ritchie, Doddridge, Lewis, Tyler, Marion, Harrison, Wetzel, and Monongalia Counties, West Virginia, as well as in Greene, Washington and Allegheny Counties, Pennsylvania.

A. Correct.

Q. Does it have a field somewhere near Dunkard compressing station that extends across the state line into both Greene County, Pennsylvania, and Monongalia County, West Virginia?

A. It does.

1972 Q. From which it is taking gas?

A. Correct.

Q. Now, then, where does this pipe line—and give the size of the same—cross the line between Pennsylvania and West Virginia?

A. There is a crossing in the southwest corner of Pennsylvania, where a 10 and a 12-inch line come up from West Virginia.

Q. South—what?

A. Southwest corner of Pennsylvania.

Q. Southwest or southeast?

A. Southwest corner of Pennsylvania.

Q. What county?

A. Greene County. Then a short distance east, 10-inch crosses from West Virginia into Pennsylvania, and a short distance east of this, a 12-inch comes up from West Virginia into Pennsylvania, and then farther east, at or near the Dunkard compressing station, a 10-inch crosses from West Virginia into Pennsylvania.

Q. Now, returning to the lines on the west?

A. There is a 10-inch that crosses into Pennsylvania from Marshall County, West Virginia.

Q. Do you know what it supplies in Marshall County, West Virginia, if anything, or is that the field from which it produces

1973 gas.

A. That is the field.

Q. Now, then, that line extends all through Greene, Washington and Allegheny Counties?

A. And up into the general direction of the Pittsburgh district.

Q. And supplies what?

A. Steel plants owned by the United States Steel Corporation.

Q. Where?

A. In Pittsburgh and vicinity.

Q. Pittsburgh, McKeesport, Braddock, and so forth?

A. Yes, sir.

Q. Now, it also supplies, does it not, a number of towns and villages in Pennsylvania, and also some in West Virginia?

A. I cannot answer as to that. They are very small, if they do. They, of course, supply farm consumers, but as to what they actually supply that might be denominated villages, I can't answer.

Mr. Hoffheimer:

Q. That is, their lessors are supplied with free gas under their leases?

1974 A. Yes, sir, or right of way contracts.

(Pennsylvania Exhibit No. 39-H shown witness.)

Mr. Weil:

Q. I now call your attention to "Pennsylvania Exhibit No. 39-H—Wyer," being the map of the natural gas lines of the Eastern Oil Company in West Virginia and Maryland. Does that map correctly represent the main transportation lines, compressing stations, and towns or villages supplied with gas by the company in West Virginia and Maryland?

A. It does.

Q. Where does this company obtain its gas supply?

A. It has a number of wells in Harrison and Lewis Counties, West Virginia, where gas is brought together through the Horner, Thomas and Forman compressing stations, where it then flows eastward through a 12-inch and a 10-inch line with laterals running over to various towns shown on the map, the line ultimately going as far east as Cumberland, Maryland.

Q. What is that point designated as "Mt. Savage?" What is that?

1975 A. That is a small town in Maryland.

Q. It is also in Maryland?

A. Yes, sir.

Q. Now, what towns in Maryland does it supply?

A. Hutton, Oakland, Mountain Lake Park, Deer Park, Gorman, Dobbin—I am not sure about Dobbin; I will omit that—Bloomington, Barton, Midland, Westernport, Lonaconing, Eckhart, and Frostburg.

Q. Those are in Maryland?

A. Yes, sir.

Q. Now, this same line crosses the dividing line between Maryland and West Virginia, back and forth, in a number of places, does it not?

A. Well, only once. It takes gas from West Virginia into Maryland and then back again, to Corinth and Terre Alta.

Q. What about Gorman?—At Gorman, Maryland, and Gormania, West Virginia?

A. That is correct. Gormania, West Virginia, gets its gas supply through a small connection that is tied to the Gorman, Maryland, distributing plant. And the same thing is true at Ridgeley, West Virginia, immediately opposite Cumberland.

Q. What about Davis?

1976 A. Davis is in West Virginia. At that point the gas does not travel out of the state.

Q. Does the Eastern Oil Company have any production in Maryland?

A. None.

Q. How far is its line from Thomas compressing station to Cumberland, do you know?

A. About 115 miles.

Q. Have you made any drawings showing the daily actual and normal atmospheric temperatures at Parkersburg, West Virginia, based on United States Weather Bureau Records for 1916, 1917, 1918 and 1919, representing the temperature deficiences and the low points that create abnormal demands for domestic natural gas service, necessitating the curtailing of industrial gas during such periods—Have you made such drawings?

A. I have.

Mr. Hoffheimer: I move to strike out that answer, in so far as it is based upon the question as to necessitating curtailment of industrial gas, as calling for an opinion or conclusion of the witness; also, as incompetent, irrelevant and immaterial.

1977 The Commissioner: Let the motion be noted.

(Four tables showing atmospheric temperatures at Parkersburg, West Virginia, produced and marked, respectively, as Pennsylvania Exhibits Nos. 40-A to 40-D, inclusive, as follows:

No. 40-A—1916,
No. 40-B—1917,
No. 40-C—1918,
No. 40-D—1919.)

Mr. Weil:

Q. Where did you obtain the Weather Bureau records?

A. Directly from the Weather Bureau.

Q. At what point in West Virginia?

A. Parkersburg.

Q. I show you these papers marked for identification Pennsylvania Exhibit No. 40-A, for 1916, No. 40-B, for 1917, No. 40-C, for 1918, and No. 40-D, for 1919, and ask you to explain them.

A. The data on Exhibits 40-A, 40-B, 40-C and 40-D are merely the graphical presentation of the normal and actual atmospheric temperature records printed and published by the United States Weather Bureau for its Parkersburg, West Virginia, station,

1978 respectively, for the years 1916, 1917, 1918 and 1919.

Q. For which months?

A. Taking the months of January, February, November and December of each year. The vertical scale is in temperature degrees Fahrenheit, and the horizontal scale is in terms of days. The normal temperature is shown by the heavy zigzag line that runs across the face of each diagram, and this represents the normal temperature for Parkersburg. The actual observed temperature is shown by the

heavy black line, with the points where the actual observed temperature was below normal, shown in black, so as to bring out more effectively those periods of time when there was a very marked deficiency in temperature, which, of course, had a direct bearing on the gas service situation.

Mr. Hoffheimer:

Q. Let me see if I understand you: Do you mean by "normal temperature" average or mean temperature for the locality?

A. Normal temperature is the average temperature of the locality for a long period of time, and there is such a record available now for practically every Weather Bureau station.

1979 Mr. Weil:

Q. What are the lines above the heavy lines indicating the normal temperature?

A. When the temperature was in excess of the normal temperature—that is, those were the warm periods, while the black areas below the normal temperature were the cold periods, and suffering was, of course, very acute.

Q. Between the 15th and 30th of January of 1916, there was a variation, was there not, of about 60 degrees temperature?

A. 56, to be accurate.

Q. And in 1917, there was a variation in February of that year—extreme variation of——

A. 60 degrees.

Q. Now, take the variation in 1917, between January 30 and February 5, what was it?

A. 52 degrees.

Q. Well, take the variation between December 25 and December 31, of the same year, what was it?

A. About 18.

Q. Between the 20th and the 31st?

A. 46.

Recess was here taken until 1.30 o'clock, p. m.

1980 Tuesday Afternoon, September 21, 1920.

And now, the hour of 1.30 o'clock p. m. having arrived, hearing resumed.

SAMUEL S. WYER resumed the stand.

Direct examination (continued).

Mr. Weil:

Q. Have you made a diagram, Mr. Wyer, of the volume of natural gas and percentage of the state's production exported from West Virginia?

A. I have.

Q. I show you a paper marked for identification "Pennsylvania Exhibit 41—Wyer." Is that the diagram to which you refer?

A. It is.

Q. What do you mean by "volume of natural gas?"

A. This is made in terms of cubic feet. The vertical scale at the left of Exhibit 41 reads in billion cubic feet of gas.

Q. Well, to what state does that volume of gas exported refer?

A. West Virginia.

1981 Q. And the per cent of state's total production exported from West Virginia refers to what state?

A. West Virginia.

Q. Up to what year was this diagram prepared?

A. 1918.

Q. Have you the data to extend it to the year 1919?

A. I have not the official data from the United States Geological survey, but the general information from the field as a whole and the situation generally, indicate the volume of decline will be projected downward in practically a straight line, extending the line connecting the years 1917 and '18.

Q. And up to the end of 1919, to what point would that extend?

A. About 138,000,000,000.

Q. Now, explain this diagram, please.

Mr. Hoffheimer: That is objected to, and the diagram itself is objected to, in so far as it purports to show percentages; it is objected to, for the reason that the witness has given us no figure or state of facts from or upon which the alleged percentages have been based, and the percentages themselves are a mere conclusion from facts or alleged matters of fact not shown in evidence here.

1982 The Commissioner: Note the objection.

A. The percentage growth is nearly the arithmetical computation resulting from considering the amount of gas produced and the amount of gas exported, as compiled and published by the United States Geological Survey.

Mr. Weil:

Q. You mean, produced and exported from the State of West Virginia?

A. Yes; and shows that in the year 1906, about 50 per cent of West Virginia's production was exported, and that increased to about 64 per cent in 1911, then remained practically constant until 1917, and is now on the decline. The total volume of natural gas produced in the State of West Virginia in 1906, was about 61,000,000,000, and that increased until the peak was reached in 1916, when it was about 193,000,000,000 cubic feet, and has declined since that time.

Q. And about what would you estimate it at the present time; that is, at the beginning of the end of 1919?

Mr. Hoffheimer: Same objection.
1983 The Commissioner: Note the objection.

A. About 138,000,000,000 feet.

Q. From 193,000,000,000 in 1916–17, then, to 138,000,000,000 in the end of 1919, or beginning of 1920?

A. That is correct.

Q. As I understand from this diagram, that is the amount of gas that was exported from the State of West Virginia, as shown by this diagram, during those respective years?

A. That is correct.

Q. And as extended by you since 1918?

A. That is correct.

Q. Now, then, explain what you mean by the per cent or the dotted line?

A. That is merely the percentage of the total production and is arrived at by taking the total production of 100 per cent and plotting what the actual exported gas from West Virginia represents in terms of percentage.

Q. That is, as I understand you, this dotted line shows the percentage of gas——

A. Exported from West Virginia.

Q. Of its total production?

A. Taken as 100 per cent, yes.

1984 Mr. Hoffheimer:

Q. Suppose you give an illustration of that, so we will understand it.

A. For instance, just for easy arithmetic, if the total production is 100,000,000,000 cubic feet; and the amount exported is 50,000,000,000 cubic feet, then the percentage exported would be 50 per cent.

Q. I understand all about that; but I mean a practical illustration from that diagram.

The Commissioner: Take the year 1908 or 1916, for instance.

A. In the year 1906, the volume of gas produced in West Virginia was, in round numbers, 122,000,000,000 cubic feet; the amount exported was, in round numbers, one-half or 50 per cent, or 61,000,000,000 cubic feet, as shown by the scale at the left of Exhibit 41.

Mr. Weil:

Q. Now, then, take the years 1916 and 1917, and give us the same illustration.

A. In the year 1916, the total production, in round numbers,
1985 was 300,000,000,000 cubic feet. The amount of gas removed from the state was, in round numbers, 193,000,000,000 cubic feet, or in round numbers 64 per cent of the state's production.

Mr. Hoffheimer:

Q. Without cross-examining you, if you coordinate your solid line or your production of gas or volume of gas with your dotted line showing percentages, all any of them mean is this: That in 1906, a little over 60,000,000,000 cubic feet was 50 per cent of the total production?

A. That is correct.

Q. In 1908, your a little over sixty billion cubic feet coordinates with the dotted line at 55 per cent?

A. Correct.

Q. And you carry it on all the way through?

A. That is right.

Mr. Weil:

Q. I ask you now if you have prepared a diagram showing the billion cubic feet of natural gas consumed per million population in West Virginia, Ohio and Pennsylvania, from the year 1906 to the end of 1918?

Mr. Hoffheimer: Objected to, for the reason that such
1986 a computation or diagram can have no possible materiality or relevancy in relation to the amount of practical consumption of gas.

The Commissioner: Note the objection.

A. I have.

Mr. Weil:

Q. I show you a paper marked for identification "Pennsylvania Exhibit 42—Wyer," and ask you if that is the diagram to which you refer?

A. It is.

Q. I ask you if you have prepared another diagram showing the total number of feet of natural gas consumed annually per domestic consumer in West Virginia, Ohio and Pennsylvania?

A. I have.

Q. I show you a paper marked for identification "Pennsylvania Exhibit 43—Wyer," and ask you if that is the diagram showing the total amount of natural gas consumed annually per domestic consumer in West Virginia, Ohio and Pennsylvania?

A. It is.

1987 Q. I ask you if you have prepared a diagram showing the volume of industrial natural gas, consumed annually per domestic consumer, in the States of West Virginia, Ohio and Pennsylvania, and I show you exhibit marked "Pennsylvania Exhibit 44—Wyer," and ask you if that is the diagram about which I have asked?

A. It is.

Mr. Hoffheimer: These diagrams are objected to, for the reason that no figures have been given, nor has any proper foundation

been laid, for the introduction of the exhibits or for any testimony as to the alleged matters set forth therein.

The Commissioner: Note the objection.

Mr. Weil:

Q. I show you another paper marked "Pennsylvania Exhibit 45 —Wyer," and ask you if that is a diagram prepared by you, showing the volume of domestic natural gas consumed annually per domestic consumer, in West Virginia, Ohio and Pennsylvania.

Mr. Hoffheimer: Same objection.

1988 The Commissioner: Note the objection.

A. It is.

Mr. Weil:

Q. As to Exhibit 42, from what sources did you obtain the data for this computation?

A. Population data were furnished by the United States Bureau of Census, and natural gas volume data by the United States Geological Survey.

Q. And that data is contained in their official reports?

A. It is.

Q. From what source did you obtain the data for the Exhibit 43?

A. That was taken entirely from data compiled by the United States Geological Survey.

Q. And that information is contained in their official reports?

A. It is.

Q. From what source did you obtain the data for Exhibit 44?

A. From the United States Geological Survey.

Q. That data is contained in their official reports?

A. It is.

Q. From what source did you obtain the data contained

1989 in Exhibit 45?

A. United States Geological Survey.

Q. And that data is contained in their official report?

A. It is.

Q. Now, returning to Exhibit 42, which purports to give the billion cubic feet of natural gas consumed per million of population for West Virginia, Ohio and Pennsylvania; take the year 1906, and give us those figures.

A. In that year, for the State of West Virginia, there was consumed about 52,000,000,000 cubic feet of natural gas for each million population in the state. For Pennsylvania, there was consumed in the year 1906, about 22,000,000,000 cubic feet of natural gas for each million population; and for the State of Ohio, about 17,000,000,000 cubic feet per million population in the state.

Q. For Pennsylvania, then, the consumption was over twice and for Ohio nearly three times the number of billion feet to the million population as shown by those figures?

A. No; you have it just turned around. In the State of West

Virginia for that year, the consumption of gas per million population was, in round numbers, about two and a half times what it was in Pennsylvania, and in round numbers about three
1990 times what it was in Ohio—that is, per million population.

Q. Now, take the year 1917, and make the same comparison and give us the data.

A. In the year 1917, there was consumed in West Virginia 81,000,000,000 cubic feet of gas per million population; in the State of Pennsylvania, for that year, it was 23,000,000,000 cubic feet per million population, and in the State of Ohio, about 32,000,000,000 cubic feet per million population. I would like to call your attention to another fact that is of considerable importance as applied to Exhibits 43, 44 and 45; that the vertical scale for the three comparisons is the same, and the horizontal scale is the same, so that the relative positions on the three sets of periods or the three sheets are always relatively correct, and that is the reason why there is that much vacant space on the top of Exhibit 45, because, in order to make it fair, it was necessary that the vertical scale should be the same for the three comparisons.

Q. Now, turning to Exhibit 43, what was the total amount of natural gas consumed annually per domestic consumer, in West Virginia, Ohio and Pennsylvania, giving each separately for
1991 the year 1906, and then give the same figures for the year 1918.

A. The total amount of natural gas consumed annually per domestic consumer in the year 1906 was as follows: West Virginia, 1,120 M cubic feet; Pennsylvania, 593 M cubic feet; Ohio, 241 M cubic feet. For the year 1918, the similar relationship was as follows: West Virginia, 854 M cubic feet; Pennsylvania, 368 M cubic feet, and Ohio 162 M cubic feet.

Q. Without being exact, in round numbers, how many times more did the West Virginia domestic consumer use than the domestic consumer in Pennsylvania and Ohio during those respective years?

A. That question does not square with the facts shown on here. The question should read "gas used annually per domestic consumer." The domestic consumer did not use all of this gas; it is a pro-rating of the state's total consumption against each domestic consumer, and not the domestic consumer's use. The relationship now on that basis, in the year 1918, was: West Virginia had more than twice as much gas for each domestic consumer than was available in the State of Pennsylvania and about five times as much as was available to each consumer in the State of Ohio.

1992 Mr. Hoffheimer: Motion is made to strike out the answer as not responsive to the question.

The Commissioner: Note the motion.

Mr. Weil:

Q. The domestic consumers, as a whole, in West Virginia, consumed that much more gas, as you have described, than the domestic consumers as a whole in Pennsylvania and Ohio?

A. No, that is still not a correct statement of the situation.

Q. What distinction do you make between the amount of gas used and the amount of gas consumed?

A. The difficulty is, you are confusing Exhibits 43 and 45.

Q. I am looking only at Exhibit 43.

A. Exhibit 43 is the total amount of gas consumed in the States of West Virginia, Pennsylvania and Ohio, per domestic consumer, but does not mean that that gas was consumed by the domestic consumer. That is, this total figure includes both industrial and domestic consumption, the industrial consumption being given separately on Exhibit 44, and the domestic consumption being given separately on Exhibit 45. It does not represent consumption by the domestic consumer.

1993 Q. In order to get this clear, you have taken the total amount of gas consumed by industrial as well as domestic consumers in each state, and divided it by the number of domestic consumers?

A. Correct, in order to get a basis for making a comparison between the amount of gas that was used in terms of the number of domestic consumers in the respective states for comparative purposes.

Q. Now, turn to Exhibit 44, and give us the amount of industrial gas consumed in the States of West Virginia, Ohio and Pennsylvania per domestic consumer, assuming that you arrive at your figures here in the same way as on Exhibit 43, by dividing the total amount of gas consumed industrially by the number of domestic consumers in those respective states.

Mr. Hoffheimer: Objected to as calling for a mere fanciful calculation, which has no bearing upon the issues in this case; also, objected to as incompetent, irrelevant and immaterial.

The Commissioner: Note the objection.

1994 A. The industrial gas consumed annually per domestic consumer in West Virginia, Ohio and Pennsylvania, for the year 1906, was as follows: West Virginia, 932 M cubic feet; Pennsylvania, 442 M cubic feet; Ohio, 135 M cubic feet. For the year 1918, West Virginia, 689 M cubic feet; Pennsylvania, 244 M cubic feet, and Ohio, 51 M cubic feet.

Q. Turn now to Exhibit 45. This diagram purports to show, does it not, the amount of domestic natural gas consumed annually per domestic consumer, in West Virginia, Ohio and Pennsylvania?

A. That is correct.

Q. You take the total amount of gas consumed by the domestic consumers and divide it by the number of domestic consumers in each of those states, do you?

A. Correct.

Q. Now give us the amounts respectively consumed per domestic consumer, in the three states, in 1906 and in 1918.

A. Domestic natural gas consumed annually per domestic consumer, in West Virginia, Ohio and Pennsylvania, for the year 1906, was: West Virginia, 188 M cubic feet; Pennsylvania, 151 M cubic feet, and Ohio, 106 M cubic feet; and for the year 1918, in West

Virginia, 165 M cubic feet; Pennsylvania, 124 M cubic feet; and Ohio, 111 M cubic feet.

1995 Q. How do you account for the larger consumption per domestic consumer of the West Virginia domestic consumption, as compared with Pennsylvania and Ohio?

A. Low prices and inefficient wasteful use in West Virginia. What is cheap will never be saved. Natural gas in West Virginia has been considered so cheap as not to be worth saving. Very frequently in warm weather they will allow the gas to burn rather than turn it off. They will open the windows for ventilation rather than turn off the fuel supply.

Q. Now this waste of gas in West Virginia, by the domestic consumer, to which you have referred, have you obtained knowledge and information of this by personal investigation, as well as from an examination of the records of the various companies, to which you have already referred?

Mr. Hoffheimer: Objected to, as no basis has been laid for such a question. Let him tell what he saw and what he did.

The Commissioner: Note the objection.

A. I have been around West Virginia a great deal in the gas fields, and have had opportunity to make observation as to
1996 how they were using gas in their homes, and I know gas is used there in a very much more wasteful manner than in the other states, speaking generally. For instance, a number of years ago I was in Weston, West Virginia, on a warm day in May, and I remember distinctly of counting twenty-five stoves, just as I was walking through the town, that were burning, with the gas on, of course, and the windows open. It is very seldom that you see torchlights turned down in West Virginia. In going through New Cumberland in West Virginia just recently, every street light was burning at noon and three of those street light mantels—most of them have three mantels to the post—three of those mantels will waste enough gas to supply a domestic consumer. That indicates what could be accomplished with natural gas in West Virginia if it were used with more care.

Q. What do you know about the waste of gas in West Virginia in industrial plants?

A. I have been about a large number of industrial plants, have made first hand inspection at the furnaces, and there are very few places where they are using even first class mixers for mixing the air necessary for combustion with the gas. As a result of that inspection, I remember very distinctly that I found but one place
1997 where they had any apparatus for determining the efficiency of combustion. That is, to determine whether all of the gas fed into the furnace had been properly consumed, and in that particular instance, if my memory serves me correctly, they admitted that correcting undesirable combustion conditions had resulted in saving 20 per cent of the fuel in that particular furnace.

Mr. Hoffheimer: I move to strike out the alleged admission of some unidentified third party, as incompetent.

The Commissioner: Note the motion.

A. (Continuing:) That is a very common thing in West Virginia, to see them burning natural gas in industrial plants with comparatively no mixers—merely a small piece of pipe going into the combustion chamber and burning the gas nearly raw—that is, with only a small amount of air that the homemade apparatus will permit to get to the flame. As another indication of what can be done along that line, in one instance the change in design of a kiln for burning pottery resulted in saving 70 per cent of the fuel used. That is, they could get the same output of ware from
1998 a plant with only 30 per cent of the fuel formerly used.

Mr. Weil:

Q. Generally speaking, where the mixer is not used, what percentage of gas is wasted through improper combustion, if you are able to give us any such estimate?

A. I have made a large number of checks on other furnaces in other states, and the use of fuel under those conditions always results in a waste of 20 or 25 per cent at least.

Q. That is, where mixers are not used?

A. Yes, sir.

Q. I believe you stated that you found this condition general, from your examination of the industrial plants in the State of West Virginia?

Mr. Hoffheimer: Objected to as leading and also as assuming a matter not testified to by the witness, and also because no foundation has been laid or information shown, sufficient to base any such generalizations upon.

The Commissioner: Note the objection.

1999 A. I have not inspected all of the plants in West Virginia, but for those plants I did inspect, the statement I have made implies as a true condition of fact.

Mr. Weil:

Q. Can you give us an estimate of the number of industrial plants that you did inspect, and the location of them in different sections, and when the inspection was made?

A. I can't give you the exact number, without counting them up in my notes, but I have examined most of the plants supplied by the Philadelphia Company, the Manufacturers Light & Heat Company, and the Randall Gas Company, at Morgantown, and a number of the plants supplied by the Hope Natural Gas Company.

Q. What do you know about the use of Natural gas in West Virginia in carbon black plants?

A. Natural gas has had a rather extensive use in West Virginia for the manufacture of carbon black.

Q. How is it used for that purpose?

A. In making lamp black, the gas is burned without any air

at all, with a view of getting the most imperfect combustion that you possibly can get, so as to make the largest amount of soot. The flame from the raw gas is made to impinge on a metal plate,
2000 and the lamp black, which is merely ordinary soot, such as we have in the Pittsburgh air, is precipitated on the plates and then scraped off. It is a negligent and gross misuse of natural gas, and a use that ought not to be permitted under any consideration where the gas could be used for public utility service.

Mr. Hoffheimer: Counsel for West Virginia move to strike out the criticism by the witness, with reference to the negligent and gross misue of gas for carbon black, as irresponsive to the question, and as mere opinion or a conclusion of the witness, not a proper subject of expert testimony, and as incompetent, irrelevant and immaterial and gratuitous.

The Commissioner: Note the motion.

Mr. Weil:

Q. Do you know whether or not there are any number of such carbon black plants in the State of West Virginia, and if you do, tell us how many?

A. I can't give you the exact number from memory. I can furnish that for the record if you want it. About nine per
2001 cent of the state's production, is misused in carbon black manufacture.

Mr. Hoffheimer: We move to strike out the statement that nine per cent of the state's production is misused in carbon black manufacture, as not responsive to the question, and for the reasons given in the last preceding motion to strike out.

The Commissioner: Note the motion.

Mr. Weil:

Q. You mean by that, nine per cent of the total natural gas production of the State of West Virginia?

A. Yes.

Mr. Hoffheimer: West Virginia renews its objection and motion to strike out.

The Commissioner: Note the objection and motion.

Mr. Weil:

Q. What has been the effect of low prices for gas in the State of West Virginia upon the removal of gas from the ground.

2002 Mr. Hoffheimer: Objected to as not the proper subject of expert or opinion evidence, and for the further reason that no sufficient foundation has been laid, and that the evidence proposed to be adduced is incompetent, irrelevant and immaterial.

The Commissioner: Note the objection.

A. Low prices have resulted, of course, in an inevitable low field level price in the field. This has made it unprofitable to remove a large amount of residue gas that would be available and could be removed if it were profitable so to do. That is, to give you a concrete illustration, at the present time, for most companies in West Virginia, when the rock pressures get down in the neighborhood of 40 or 50 pounds, under present existing low price conditions, it is not profitable to operate many such low pressure wells or to build the additional compressing station equipment necessary to properly drain and get all the residue gas out. The result of this condition is, because of this low price situation, many wells are pulled before they would be pulled with higher prices in vogue, and this, of course, results in leaving much residue natural gas in the
2003 ground and unfortunately in a form in which it will not be feasible to redrill for it later on, or remove it later. In brief, it represents an unqualified and absolute waste of the natural gas resources of the state.

Mr. Hoffheimer: The State of West Virginia moves to strike out the answer on the ground stated in the objection.

The Commissioner: Note the motion.

Mr. Weil:

Q. Have you prepared a diagram showing the main transportation systems of the various gas companies outside of West Virginia, in Indiana, Ohio, Pennsylvania, Kentucky, and Maryland, with the names of the principal towns outside of West Virginia depending on natural gas for their natural gas service through these respective lines?

A. I have.

Q. I show you a paper marked for identification "Pennsylvania Exhibit 46—Wyer," and ask you if that is the diagram to which you have referred?

A. It is.

Q. Do those cities and towns represented upon this diagram
2004 on this system of transportation, depend to any extent, and if so to what extent, on the gas transported from West Virginia through those lines to those respective towns and cities?

Mr. Hoffheimer: That is objected to, because no proper foundation has been laid and no statement of facts made or shown to be within the knowledge of the witness as a basis of a conclusion to that effect, and for the further reason that the evidence asked for is a matter of opinion or conclusion, and not a proper subject for opinion or expert evidence, and for the further reason that it is incompetent, irrelevant and immaterial.

The Commisioner: Note the objection.

A. The towns shown on this map depend on West Virginia for their natural gas service; that is, they all are connected directly to lines that are supplied with West Virginia natural gas.

Mr. Weil: I now offer in evidence, in connection with the testimony of the witness, Pennsylvania Exhibits 35 to 46, inclusive.

2005 Mr. Hoffheimer: Objection is made to the introduction in evidence of each and every of the exhibits offered severally, upon the several grounds heretofore stated when said exhibits were identified or referred to, and for the further reason that each of said several exhibits is incompetent, irrelevant and immaterial, and no proper foundation has been laid for the introduction thereof, and that said exhibits, and each of them, bear no notations or legends constituting proper matter for the information of the witness.

The Commisioner: Note the objection and let the exhibits be received.

Mr. Weil:

Q. Will you furnish us with a list of those principal cities and towns outside of West Virginia, set forth upon Exhibit 46?

A. Do you want merely those that are on there? There are more than are shown on that map.

Q. Well, if you have any data showing others that are dependent upon West Virginia for their gas service, we would like to have that too.

A. Very well.

2006 Q. Have you that list with you?

A. I haven't it here, but I can furnish it later. It is in my office or at the hotel.

Mr. Hoffheimer: If any list is expected to be presented before the conclusion of the examination of Mr. Wyer, so that cross-examination may be had thereon, a proper objection may be made thereto, if offered.

The Commissioner: Note counsel's remark.

Mr. Weil:

Q. What is the number of towns that would be affected outside of West Virginia by diminishing or inhibiting the transmission of gas from West Virginia to those respective towns?

Mr. Hoffheimer: Objected to as calling for an improper opinion and conclusion, and as incompetent, irrelevant and immaterial.

The Commissioner: Note the objection.

A. About 650.

2007 Mr. Weil:

Q. And what number of consumers would be likewise affected?

Mr. Hoffheimer: Same objection.

The Commissioner: Note the objection.

A. Over a million.

Mr. Weil:

Q. And what population?

Mr. Hoffheimer: Same objection.
The Commissioner: Note the objection.

A. Over five million.

Mr. Weil:

Q. What amount of property has money invested by the respective gas companies in these interstate transmission lines from West Virginia to Kentucky, Maryland, Pennsylvania, Ohio and Indiana?

Mr. Hoffheimer: Objected to for the reason that no proper
2008 foundation has been laid, and the witness is not shown to be in position to inform us of these facts or to possess the information upon which to base a conclusion such as is asked for, and for the further reason that the evidence is incompetent, irrelevant and immaterial.
The Commissioner: Note the objection.

A. The property value that would be affected by the enforcement of the law in question would be at least $200,000,000,000.

Mr. Weil:

Q. What does this include, generally?

Mr. Hoffheimer: Same objection.
The Commissioner: Note the objection.

A. It includes compressing stations, transmission lines, and of course a large number of distributing plants that would become worthless by the salvaging of the main transmission lines, for the simple reason that it is not feasible to distribute manufac-
2009 tured gas in a small town, and all these towns that now have natural gas from a main transmission line, when such a transmission line is no longer in use, the town distributing plant would also have to go out of business.

Mr. Hoffheimer: Counsel for the State of West Virginia move to strike out the statement about local distributing plants as not responsive to the question.

Mr. Weil:

Q. This does not include any loss to individual consumers in the readjustment of their appliances to the burning of other fuel than natural gas?

Mr. Hoffheimer: Objected to, for the reason given in the previous objection, and also as incompetent, irrelevant and immaterial, and leading.

The Commissioner: Note the objection.

A. It does not.

Mr. Weil:

Q. To readjust the appliances and houses of the consumers
2010 to the use of other fuel, where natural gas has heretofore been used, what would be the effect as to the cost to these individual domestic consumers?

Mr. Hoffheimer: Objected to, for the reasons given in the previous objection.
The Commissioner: Note the objection.

A. The enforcement of the act in controversy would mean a loss of at least $100 on the average to each consumer affected, and this would mean an aggregate loss of at least $112,000,000.

Mr. Weil:

Q. What do you say as to the necessity, in some cases, for the reconstruction of dwellings that have been built for the purpose of using natural gas as fuel?

Mr. Hoffheimer: Objected to on the same grounds as previously given, and for the further reason that the question assumes that dwellings have been built for the consumption of natural gas.
The Commissioner: Note the objection.

2011 A. There are a large number of houses in use that are built for burning gas only. These houses would very obviously have to have a different kind of chimney and then there is another group where, after natural gas had been used for some time in the ordinary masonry chimney, it is necessary to rebuild the chimney before solid fuel can be used in the chimney.

Mr. Weil:

Q. Can you give us, from investigations which you have made, the percentage of all the gas used in Maryland, Pennsylvania, Ohio, Indiana and Kentucky, that is furnished from West Virginia, or supplied from West Virginia?
A. Maryland, 100 per cent; Pennsylvania, 35 per cent; Ohio, 50 per cent; Indiana, 80 per cent; Kentucky, 90 per cent.
Q. How many municipalities in Ohio, Pennsylvania, Kentucky, Indiana and Maryland, respectively, depend entirely on West Virginia for their natural gas service, having no other gas supply?

Mr. Hoffheimer: Objected to, on the grounds previously stated to questions relative to dependency.
2012 The Commissioner: Note the objection.

A. About 650 towns in the five states.

Mr. Weil:

Q. How many in each?

A. Ohio, 300; Pennsylvania, 300; Kentucky, 25; Indiana, 15; Maryland, 14.

Q. Will you give us now the number of domestic consumers, respectively, in Pennsylvania, Kentucky, Indiana, Maryland and Ohio, who are dependent entirely on West Virginia for their natural gas service, and the number of people?

A. Pennsylvania, 300,000 consumers, one and a half million population; Kentucky, 75,000 consumers, 375,000 population; Indiana, 15,000 consumers, 75,000 population; Maryland, 10,000 consumers, 50,000 population; Ohio, 725,000 consumers, 3,625 population.

Mr. Hoffheimer: Counsel for the State of West Virginia move to strike out the answer, on the ground stated in previous objections to questions on the matter of dependency.

The Commissioner: Note the motion.

2013 Mr. Weil:

Q. How have you arrived at the population?

A. Estimated five people for each domestic consumer.

Q. Is it possible to provide storage facilities for natural gas, after it has been produced from the rock and brought to the surface?

A. It is possible, but not commercially expedient—that is, the cost of storage facilities would be prohibitive.

Q. Have the compressing stations that have been constructed in the State of West Virginia on these various transmission lines, been constructed for the purpose of transmitting gas in the State of West Virginia on through these interstate transmission lines?

Mr. Hoffheimer: Objected to as being a matter of opinion or conclusion, and for the further reason that no proper foundation has been laid, and the witness has not shown that he has any competent knowledge on the subject. Objected to further as incompetent, irrelevant and immaterial.

The Commissioner: Note the objection.

A. Most compressing stations built in West Virginia have been built for the purpose of transmitting natural gas through the interstate transmission lines to other states.

2014 Mr. Weil:

Q. Is the gas going from the well in the field to the ultimate consumer ever at rest?

Mr. Hoffheimer: Same objection.

The Commssioner: Note the objection.

A. It is not.

Mr. Weil:

Q. What do you know as to the interstate demands for West Virginia natural gas during the peak load period?

Mr. Hoffheimer: Objected to as incompetent, irrelevant and immaterial, and for the further reason that it calls for a conclusion or opinion from the witness. Let him state the facts.

The Commissioner: Note the objection.

A. The demand for West Virginia gas outside the State of
2015 West Virginia is now greater than the available supply.

Mr. Weil:

Q. What percentage does the peak load demand for domestic consumers exceed the lowest demand?

A. As a general average for most domestic consumers, the peak load will be from fifteen to eighteen times larger than the demand which would be lowest during the summer time.

Q. Is there such a thing as the regeneration of natural gas in the sands from which it has been removed?

A. There is not. When the gas is once removed it is gone forever.

Q. What do you say as to the maintenance of gas pressures in the lines to suit the operating conditions of the lines from West Virginia to the various points of consumption outside of the state, even to the remotest point?

A. The pressures maintained in West Virginia must be such as will properly feed into the transmission scheme as a whole, and must be subordinated to the operating conditions necessary to deliver gas to the various communities en route along the various
2016 transmission lines going out of the state.

Q. What would be the effect of making physical connection in West Virginia between those interstate lines and local lines or communities, as is provided for in the statute now under discussion, as to the service on the lines of such interstate companies?

Mr. Hoffheimer: Objected to as involving an opinion or interpretation by the witness as to the effect of the statute in question.

The Commissioner: Note the objection.

A. The immediate practical effect of making such connections would be to demoralize in all cases, and in many instances destroy entirely, the interstate service for natural gas transmission, in towns outside of West Virginia.

Mr. Weil:

Q. Will you explain this a little more fully, and tell us why this result would follow?

Mr. Hoffheimer: Same objection.

The Commissioner: Note the objection.

2017 A. For instance, in gas transmission, the gas is not only the commodity that is being transmitted through the line, but it is within itself endowed with an inherent energy for propelling itself along the line by virtue of its own expansion. That is, the gas flow in these interstate main transmission lines is always by expansion. The gas is never pushed forward like a plug of incompressible fluid, like water or oil, and any disturbance or any removal of gas by diverting part of that gas out of the line, has the effect of not merely lessening the flow, but disturbing the transmission conditions all along the line. This, for instance, is in marked contrast to what can be done with other commodities. For instance, a train of coal cars starting in West Virginia for Toledo, Ohio, the train itself has no physical connection and no dependence on other trains ahead or behind it. Each train goes along as an independent unit, and each car on the train is an independent unit. The shunting off in West Virginia of one or more coal cars from such a train would not in any way affect the other cars en route or the other trains en route. However, the shunting off from an interstate transmission line of a certain amount of natural gas would not only bring about
2018 a shrinkage in volume by an amount equal to that so removed, but may so disturb the pressure conditions as to demoralize the transmission conditions all along the line.

Mr. Weil:

Q. What would you say as to the interstate service, such as is now being supplied, being possible when and if such connections are made from time to time, for uncertain quantities at unexpected and unprovided for times, to meet the shortages that might occur in the State of West Virginia, and which these companies engaged in interstate transmission of gas would be called upon to supply under the terms of the Act in controversy?

Mr. Hoffheimer: Same objection.
The Commissioner: Note the objection.

A. If the diversion were done to any extent at all, it would result in demoralizing all such service and ultimately destroying it entirely.

Mr. Weil:

Q. Has the capacity of the transmission lines through which the gas is at the present time being transmitted for service in
2019 other states than West Virginia, been computed and fixed and arranged for the purpose of supplying that service?

Mr. Hoffheimer: Counsel for the State of West Virginia object to the question as incompetent, irrelevant and immaterial.
The Commissioner: Note the objection.

A. It has.

Mr. Weil:

Q. Would it be possible as a practical operating operation to rearrange these transmission lines or reconstruct the same, so as to provide for the contingencies possible under the operation of the Act in controversy, say in West Virginia?

Mr. Hoffheimer: Objected to as incompetent, irrelevant and immaterial.
The Commissioner: Note the objection.

A. It would not, for the very simple reason that the enforcement of this Act would merely kill all interstate shipments of
2020 natural gas out of the State of West Virginia.

Mr. Weil:

Q. If there should be supplied to all the industrial, domestic and other consumers in the State of West Virginia an adequate supply of natural gas before the same were transmitted outside of the state, what would be the effect as to the quantity of gas, if any, that would be left for transmission outside of the state?

Mr. Hoffheimer: Objected to, on the grounds stated to similar questions along this line.

A. There wouldn't be any left to transmit.

Mr. Weil:

Q. Why?
A. It is very easy to create an industrial demand in West Virginia that would absorb all the gas that could be sold to the industries of West Virginia; or, to state it this way, the enforcement of this Act would make such a demand for gas, because of its low price, that the industries that have had inadequate service would, of course, come on, and those that have had no service at all would
2021 demand gas connections, and the two industrial groups together, combined with domestic consumers, could easily use all the gas inside of the State of West Virginia that is now produced inside the State of West Virginia.

Mr. Hoffheimer: Counsel for the State of West Virginia move to strike out the answer, on the ground that it is speculative.
The Commissioner: Note the motion.

Mr. Weil:

Q. Have you any figures at the present time as to the percentage of gas now used by the lamp black factories in West Virginia, of the gas used by domestic consumers in the entire state?

Mr. Hoffheimer: Objected to as irrelevant and immaterial.
The Commissioner: Note the objection.

A. The carbon or lamp black industry in West Virginia uses about 50 per cent more gas than is used by all the domestic consumers within the State of West Virginia.

2022 Mr. Weil:

Q. That is true of the industry in its present situation?
A. Substantially so. It is, of course, impossible to get accurate information up to the last thousand feet for the last year.
Q. Did the United States Fuel Administration, when it was in operation, recognize, or endeavor to enforce, any principle for the equitable distribution of natural gas, as between the industrial consumers and domestic consumers?

Mr. Hoffheimer: Objected to as calling for an opinion or conclusion of the witness, and for the further reason that it is not the best evidence of the acts or policy of the Fuel Administration, and for the further reason that the evidence is incompetent, irrelevant and immaterial, and without bearing on the issues in this case.
The Commissioner: Note the objection.

A. When I was chief of Natural Gas Conservation for the United States Government, we had worked out a definite program for
2023 pro rating the gas supply then available to various consumers and communities. That program was worked out and the final details of the program would have been completed and the whole scheme placed into operation before the end of 1918, had it not been for the premature signing of the armistice.

Mr. Hoffheimer: While regretting that the war prematurely ceased at such time as to prevent the practical operation of this program, counsel for the State of West Virginia, move to strike out the statement of the witness as to the program of the Fuel Administration, for the reason that the answer itself is a mere conclusion or opinion of the witness as to the program; for the further reason that the program, like other programs of the Fuel Administration, was or is of no binding force and effect or evidence against any one; and for the further reason that the alleged program is incompetent, irrelevant and immaterial, so far as the issues of this case are concerned.
The Commissioner: Note the motion.

2024 Mr. Weil:

Q. What was this program?

Mr. Hoffheimer: This question is objected to for the reason set forth in the motion to strike out the last answer.
The Commissioner: Note the objection.

A. The program was simply to secure an equitable distribution of a natural resource. The investigations made showed, of course, very conclusively, that the State of West Virginia, on any basis of comparison, either in terms of population, terms of total gas used

per domestic consumer, or industrial gas used per domestic consumer, had always, and did then, have a larger share in this supply than any other state. In other words, any program contemplating an equitable distribution of natural resources would immediately involve a very marked curtailment in the amount of natural gas that could have been used in West Virginia under such a scheme. That condition is, of course, accurately reflected on Pennsylvania Exhibits 42, 43, 44 and 45, where the amount of gas used in West Virginia on any one of the four bases of comparison
2025 is always larger than the amount in Ohio or Pennsylvania.

Mr. Hoffheimer: Counsel for the State of West Virginia moves to strike out the answer as not responsive to the question, and also on the ground expressed in the objection to the question.

The Commissioner: Note the motion.

Mr. Weil:

Q. What was this conclusion as to giving the domestic consumer preference over the industrial consumer when there was not enough gas to go around.

Mr. Hoffheimer: Same objection.

The Commissioner: Note the objection.

A. That, of course, would have been the fixed policy of the Fuel Administration. That, of course, has since been practically copied in toto by the Public Service Commission of West Virginia, the Public Service Commission of Ohio and the Public Service Commission of Pennsylvania.

2026 Mr. Hoffheimer: Counsel for the State of West Virginia move to strike out the answer as irrelevant.

The Commissioner: Note the motion.

Mr. Weil:

Q. Can you give us the estimate you have made of the losses which would be suffered by the enforcement of the Act in controversy, first, to natural gas companies engaged in interstate transmission of natural gas from West Virginia to other points; secondly, by the consumers; and thirdly, by the public generally?

Mr. Hoffheimer: Unless that question calls for yes or no as an answer, and is expected to be followed by a substantial answer of the question, the question is objected to as calling for an incompetent opinion or conclusion of the witness, it being based upon no facts stated by or within the knowledge of the witness; and further, no foundation has been laid for such evidence; and for the further reason that the evidence sought to be adduced is incompetent, irrelevant and immaterial.

2027 The Commissioner: Note the objection.

A. I can, as far as the companies and consumers are concerned. That figure has already been given.

Mr. Weil:

Q. Well, give it to us right here.
A. For the companies, $200,000,000 in property that would be practically destroyed; for the consumers, $112,000,000.
Q. If you can't give us any figures, can you give us an estimate of what would be the effect upon the public, such as domestic consumers and their families, in the other states than West Virginia, of the enforcement of this statute, referring to those who are now using natural gas as fuel.

Mr. Hoffheimer: Objected to as speculative and calling for the witness's opinion and conclusion, and not the proper subject of expert testimony, and that no foundation has been laid for such testimony; and further, as incompetent, irrelevant and immaterial.
The Commissioner: Note the objection.

2028 A. It would deprive all such consumers of natural gas service.

Mr. Weil:

Q. What would that effect be?

Mr. Hoffheimer: Same objection.
The Commissioner: Note the objection.

A. It would be a very great inconvenience. It would represent a very distinct financial loss. Of course, it would be very difficult to fix that by any definite arithmetical amount, because natural gas at any prices that it has been sold for in the past is cheaper by far than any other service or competing commodity that could be purchased for performing any similar function in the house. One dollar natural gas would be only 40 per cent as expensive in actual cost to the consumer as manufactured gas at current prices, and for the larger communities it would be necessary to go to manufactured gas. For the smaller communities—and they of course are in the majority as far as numbers are concerned—it would not be feasible to
2029 operate artificial gas plants, and they would have to go without any gas service at all, and for any other commodity they could purchase at present market prices, the cost would be very much greater and would represent a distinct and great financial loss, in addition to the very important one of the great convenience of natural gas for domestic purposes.

Mr. Weil:

Q. If the companies engaged in the business of supplying gas from West Virginia to the communities in other states, as has been described, should not adopt the policy of cutting off all such service under the operation of this act, and of notifying the consumers to discontinue all such consumption, and continued their business as now, taking their chances under the operation of this Act, what would

be the effect, in your opinion, as a natural gas expert and with your knowledge of the situation, upon the health and life and comfort of those domestic consumers who are using natural gas in other states, transported from West Virginia?

Mr. Hoffheimer: Objected to, for the reasons given in the previous objection to similar questions.

2030 The Commissioner: Note the objection.

A. I do not believe that in the operation of the Act any one of those interstate lines would attempt to use natural gas, for the simple reason that there wouldn't be any, so the effect on health would be that they would have to get other fuel for heating and cooking, and something else for lighting. As far as convenience is concerned, there is nothing they could get that would be in the same class with the natural gas of which they had been deprived. That is, to state it this way, the operation of this law in West Virginia for most of these towns depending on these interstate lines, there would not be left any twilight zone for discussion. The gas would all stay in West Virginia.

Cross-examination.

Mr. Hoffheimer:

Q. You have been specializing in matters relating to natural gas how many years?

A. It has monopolized most of my time since 1911 or '12.

Q. Before that time, what line were you specializing in?

A. More general engineering practice. My first work was on manufactured gas.

2031 Q. For the last half-dozen years, what gas companies have you been devoting most of your time to?

A. I have done a great deal of work for the Kansas Natural Gas Company, the Logan Natural Gas & Fuel Company's properties in Ohio, the Ohio Fuel Gas properties in Ohio, the United Fuel Gas Company in West Virginia, Clarksburg Light & Heat Company, Keener Oil & Gas Company, at Weston, West Virginia, Randall Gas Company, Eastern Oil Company's properties in West Virginia and Maryland, Eastern Ohio Gas Company, in Ohio, Union Gas & Electric Company in Cincinnati, Philadelphia Company, in Pennsylvania and West Virginia, Peoples Natural Gas Company in Pennsylvania, Manufacturers Light & Heat Company, in Pennsylvania and West Virginia, Pennsylvania Gas Company, United Natural Gas Company, in Pennsylvania, Iroquois Natural Gas Company, in New York, Potter Gas Company, in Pennsylvania and New York, T. W. Phillips Oil & Gas Company, in Pennsylvania, American Natural Gas Company, in Pennsylvania, Natural Gas Company of West Virginia—their Pennsylvania, Ohio and West Virginia properties—and the Ashtabula Gas Company. That covers the principal ones.

Q. How much of your time in the last half-dozen years have

the affairs and business of these companies you have
2032 enumerated taken?

A. Most of my time.

Q. Have you, during the last half-dozen years, been employed continuously by all of these companies?

A. No, at different times by different ones.

Q. How many of them and which ones have you been with continuously during that period?

A. Well, I have had some engineering work on all the time since 1912, for the Ohio Fuel Supply Company. I have had some engineering work on most of the time the last five years for the Eastern Oil Company. I have had some work on most of the time for the last three years for the Peoples Natural Gas Company and the Hope Natural Gas Company. I have had some work on all of the time since the first of April for the Philadelphia Company. I have had some work on most of the time for the last two years for the Pennsylvania Gas Company and the United Natural Gas Company. I have had some work on for a part of the time for the last eighteen months for the Iroquois Natural Gas Company. I have had some work, probably each year, for the Kansas Natural Gas Company, since the latter part of 1912. I have had some work on most of the time for the Manufacturers Light & Heat Company for the last four
2033 years. I have had work on most of the time for the Lone Star Gas Company for the last six years. I forgot to mention that before.

Q. Did you mention the United Fuel Gas Company?

A. I have had some work on for them for the last two years.

Q. Well, by which of those companies are you now employed?

A. At the present time I am doing work for the Ohio Fuel Supply Company, Lone Star Gas Company, National Fuel Company, which owns the Pennsylvania, the United Natural and the Iroquois Company, the Peoples Company, the Hope Natural Gas Company, and the Eastern Oil Company, the American Natural Gas Company, Potter Gas Company, Kansas Natural Gas Company, Leavenworth Light, Heat & Power Company—I forgot to mention that before—and another I forgot to mention was the Producers Gas Company, at Olean, New York.

Q. When were you in the service of the United States Fuel Administration?

A. In the year 1918.

Q. Just that one year?

A. Yes, and only a part of that year with the Fuel Administration. I was stationed at the Bureau of Standards for part of the year, and was Advisory Engineer on fuel matters for the National Defense Council.

2034 Q. What was the position you occupied with the Fuel Administration?

A. Chief of Natural Gas Conservation.

Q. Who succeeded you?

A. No one; the administration went out of existence.

Q. That I suppose terminated the program?

A. Certainly, as far as the Federal Government was concerned, although as far as giving the domestic consumers precedence is concerned, that matter has been revived and agreed to by the utility commissions of the five states, West Virginia, Maryland, Pennsylvania, New York, Second District, and Ohio.

Mr. Hoffheimer: Counsel for the State of West Virginia move to strike out the statement of the witness as to any agreement on the part of the Public Service Commissions, and particularly in so far as it relates to the Public Service Commission of West Virginia, first, because the statement is not the best evidence of any such agreement, if it exists, and without engaging in any controversy of fact with the witness, I have reason to think that the Public Service Commission of West Virginia has not entered into any such
2035 agreement.

The Commissioner: Note the motion.

A. The Public Service Commission of West Virginia has issued an order on the Eastern Oil Company, which makes it necessary for that company to shut off all industrial consumers and give domestic consumers precedence, and that Commission also agreed to a resolution just a few days ago, among other things, containing the following——

Mr. Hoffheimer: Counsel for the State of West Virginia move to strike out these voluntary statements of the witness.

The Commissioner: Note the motion.

Mr. Hoffheimer:

Q. When did you make the surveys and investigations of the individual natural gas properties of the Hope Natural Gas Company, the Reserve Gas Company, the Manufacturers Light & Heat Company, the Philadelphia Company, the Eastern Oil Company, the Fayette County Gas Company, the United Fuel Gas Company, and the Carnegie Natural Gas Company, from which you prepared the maps which have been offered in evidence?

2036 A. The first investigation was made in the earlier part of 1919. That was then supplemented at various times during the year 1920.

Q. That applies to all of the companies I have mentioned in my question?

A. Yes. Of course, what I did in all cases where I had information in my office pertaining to any of those companies, where the information was gotten for another purpose or in another investigation, obviously it was not necessary to duplicate that work. I used all of the information in my own files pertaining to those companies because I had been doing work on them before I entered this, and then I supplemented that with detailed information early in the year 1919, and at various times in the year 1920.

Q. Where did that information in your files come from?

A. Well, the information was gathered together in various in-

vestigations that had been made on the company's properties for other purposes.

Q. By whom?

A. By myself.

Q. Have you traveled all over the routes of these various lines in existence?

A. No, I didn't travel over all the main transmission lines.
2037 I have driven over a great deal of West Virginia, but I do not mean to state that I have driven over every foot of the many thousand feet of gas lines in the State of West Virginia.

Q. As of what date or dates are these maps intended to represent the conditions?

A. Unless otherwise stated, the maps generally show conditions as of 1920. There is one exception to that. The United Fuel Gas Company, I merely used a map prepared as of January 1, 1909, and on the Eastern Oil Company, a map prepared several years ago, but where there are no changes in line construction since that time. The map, even though it is several years old, represents the property as far as the main lines are concerned exactly as it exists today.

Q. And I assume from what you have answered on your direct examination, that these various maps are correct in all respects, according to your knowledge and available information?

A. Yes, they are.

Q. That you swear to?

A. Yes, sir.

Q. In what particular connections have you made examinations of these various properties, by which you came in possession
2038 of the information which you employed in making these maps and gathering together the other information about which you have testified?

A. Well, for instance, on the Ohio Field Supply Company, in Ohio, I have made an appraisal of that property and have studied their operating conditions, and have prepared a number of reports since 1912, covering various phases of their natural gas operations in the State of Ohio, one of which was the possible effect of the common carrier provision on that entire system. As far as the East Ohio Gas Company is concerned, I have made an appraisal of that property. As far as the properties of the Logan Natural Gas & Fuel Company are concerned, I have made a complete appraisal of the entire property, which included a personal inspection of practically every single distributing plant. I have also made a complete appraisal of the Northwestern Ohio Natural Gas Company's property, which hooks on to the United. I have worked out a program for pro-rating gas in the various communities served, and have acted as consulting engineer for a number of years. As far as the Manufacturers Light & Heat Company is concerned, both in Pennsylvania and Ohio, as well as the West Virginia end, I made a rather extended study of that four or five years ago. I can't give
2039 you the exact date. I have made a recent study of properties of the Philadelphia Company in West Virginia and Pennsylvania, making an appraisal of the property and working out a

rather elaborate report on the gas situation of the Philadelphia Company's natural gas properties in West Virginia and Pennsylvania. That report is printed and nearly a hundred pages in length, and in that there was included a detailed study of the economic features as well as the engineering facts pertaining to the use of manufactured gas in Pittsburgh, this company having already gone ahead and spent some two million dollars in building a manufactured gas plant. As far as the Peoples and the Hope Natural Gas Companies are concerned, I have made a total appraisal of each property. As far as the Fayette County Gas Company is concerned, I have made an appraisal of its property and a report on the reasons for increased cost. As far as the United Fuel Gas Company is concerned, in West Virginia, I have made an appraisal of that property and also prepared a rather lengthy report on the rate situation and the reasons for increased cost. Valuations were also made on all of the property of the Clarksburg Light & Heat Company, at Clarksburg, West Virginia, all of the property of the Randall Gas Company,
2040 in Morgantown and the field surrounding Morgantown and a small plant at Weston, Virginia. I also made a valuation and study of the rate situation of the Natural Gas Company of West Virginia, where gas is produced in Pennsylvania, contrary to the name of the Company, and transmitted through the West Virginia Panhandle and then sold to West Virginia consumers, and also where gas is produced in Ohio and imported into Virginia.

Q. How many of those studies and appraisals and valuations were made by you, in connection with rate cases and applications for permission to increase rates on the part of the Gas Companies?

A. Well, they were all made either for use immediately in proceedings asking for increase in rates or for the formulation of future policies leading to future rate increase situations.

Q. How much of your time has been taken up in testifying for Gas Companies in support of applications for increase of gas rates?

A. I can't give it to you definitely, but I have spent a great deal of time on that line of work in the last eight years.

Q. Uniformly in support of applications for increase of
2041 rates?

A. Yes, sir.

Q. Do you remember any case in which you testified in opposition to an application for an increase of rates?

A. I am quite sure that I did not.

Q. In regard to these maps of individual gas properties which have been offered in evidence, have you undertaken to show anything except what you call main transmission lines?

A. Some of those maps show some of the larger gathering lines but in no case are well lines shown or individual well connections. In one instance we were able to show a few of the wells supplying the Fayette County Gas Company, but with the small scale necessary to use on a map that will be introduced in printed form, it was of course physically impossible to show all of the wells or all of the well lines, because the map would not be legible.

Q. What was the minimum size of lines that you undertook to place on these maps?

A. There is no definite arbitrary limit fixed. The feature that determined whether a line could or could not be shown was whether the finished map could be reproduced. In some cases, it was
2042 possible to show a two-inch line, whereas in other cases it would not be possible to show a four-inch line, because the proximity on the map would be such that because of the very great reduction necessary in the scale the map would not have been legible.

Q. Does that statement apply equally to all of the maps?

A. Yes, I think that is a general statement with regard to the maps that we used here.

Q. Did you omit any line whatever in the State of Ohio from the map of the Manufacturers Light & Heat Company property?

A. We undoubtedly omitted—I can't tell you from memory, but we undoubtedly omitted many of the small gathering lines. I cannot give you the exact details. As stated before, the primary object was to get a map that could be reproduced and which would be accurate; but it very obviously could not show all of the small details.

Q. Well, aside from gathering lines and field lines, were there any lines omitted from those maps?

A. I am quite sure not, unless it might have been in some place where there were several lines close together and it was not possible to get them through and show them. There are a number of instances in the field where the lines are very close. That is especially true at junction points where the lines radiate from a com-
2043 mon center.

Q. What do you mean by a field line or a gathering line?

A. The term "gathering line" in a natural gas man's parlance means the line that runs from a well to a larger trunk line that takes the gas into a main line or to a compressing station. There is no hard and fast rule on that and different practical field men use the term differently. In some cases the term is applied to everything behind the compressing station; in other cases, to anything that is lateral to the transmission line; but, in general, it means a line or group of lines that gathers the gas together and brings it to some common point where it can be distributed for transmission purposes. But bear in mind, to avoid any question of ambiguity, that none of the small lead lines directly off from the wells are shown on these maps.

Q. Have you left off of any of these maps any lines as large as eight inches?

A. Yes, in a number of cases in the field.

Q. Where?

A. I can't recall that. I remember distinctly that such
2044 has happened, where the matter was referred back to me where they were sure that the map would choke in reproduction.

Q. How about six-inch lines?

A. Certainly that is true. I remember distinctly a number of

places where lines as large as eight inch could not be shown. For instance, at each one of these compressing stations, instead of one line going out, there are sometimes six or eight small sized lines, sometimes through a stream for half a mile or more, used as a cooling point.

Q. Aside from these cases of compressing stations and junctions of that character, have all lines as large as four, six or eight inches branching off of trunk lines, been shown?

A. No, there are several cases, I remember, where lateral lines branch off in feeding into main lines. Those have not been shown. There probably are a few cases where it was not possible to actually black in the lateral connection.

Q. That is, you mean, by lateral connection, a line leading off from the main line to the local distributing line?

A. Yes; for instance, taking the Manufacturers' Light and Heat Company, there are a number of places where one black line
2045 is shown crossing the river and instead of having one line at that crossing they may have half a dozen making the crossing, but if you had attempted to spread those out, all you would have had on a small scale map of this size would be a smeared streak along the Ohio River.

Q. In regard to the cities and towns shown upon these maps, of the individual properties, how was the selection made of those?

A. The towns we have shown here are the towns they supply. The legend covers that in each case. I wouldn't now, without verifying it, state that no other towns are shown; but the legend indicates on each map whether it is a distributing plant owned by that company and there is a legend on each map.

Q. Have you undertaken to show on the maps any cities or towns or villages which were not supplied by the line of the company to whose property the map relates?

A. I could not answer that without verifying each individual map. That would take some time. In map making, it is frequently customary, and it may have been done here, in order to tie
2046 in relative geographical positions, to give some larger towns, even though they do not have any bearing or direct connection on the detail, but giving them merely to enable the eye to get the general bearings.

Q. Unless that occurred, or unless the city or town was supplied from the lines of the company to whose properties the maps related, no cities or towns were placed upon the map?

A. No, and of course I have had the maps checked up to be sure that they were accurate on that point, as well as on the general detail information given.

Q. In other words, if there were a city or town somewhere within a mile or two of a trunk line, but which was not in fact supplied by that trunk line, you took no note of that in making up the map?

A. That is the understanding. In all cases, the legend, which I am quite sure is the uniform one, namely, a black circular dot, represents the town supplied.

Q. I notice on each of these maps of the individual properties the

uniform statement in red to this effect: "From wells natural gas is transmitted by its own inherent tendency to expand by pipes to many ultimate consumers in Pennsylvania and Ohio." That was intended by you as a statement of fact?

2047 A. Correct.

Q. And that truthfully sets forth the fact, according to your knowledge and information?

A. It does. It is merely the superimposition of an engineering fact on a geographical map.

Hearing here adjourned until 9:30 A. M. Wednesday, September 22nd, 1920.

ORIGINAL, #20 & #21.

October Term, 1920.

THE COMMONWEALTH OF PENNSYLVANIA

vs.

THE STATE OF WEST VIRGINIA.

THE STATE OF OHIO

vs.

THE STATE OF WEST VIRGINIA.

Proceedings of Wednesday, September 22, 1920.

2048 And now, Wednesday, September 22, 1920, the hour of 9:30 a. m. having arrived, hearing met pursuant to adjournment.

Present: The Commissioner, Levi Cooke, Esq.; on behalf of the State of Ohio, Hon. John G. Price, Attorney General, and Freeman T. Eagleson, Esq.; on behalf of the State of West Virginia, Philip R. Steptoe, Esq., and George M. Hoffheimer, Esq.

SAMUEL S. WYER resumed the stand.

Cross-examination (continued).

Mr. Hoffheimer:

Q. I notice on these maps along what I understand to be the main trunk lines, red arrows uniformly directed toward the States of Pennsylvania and Ohio. Those arrows are intended to indicate the flow of gas from West Virginia?

A. The general direction of gas flow out of West Virginia into some other state, which might be Maryland, Pennsylvania,
2049 Ohio, Indiana, or Kentucky.

Q. What you mean by that is, that the gas leaving the wells on this continuous journey to the other states you have mentioned, uniformly and constantly pursues its travels in the direction of the arrows?

A. Well, the object in putting the red arrows on is to give the general direction. There are some places—that happens to be espe-

cially true in the case of the Manufacturers Light & Heat Company—where gas is crossing from one trunk line to another, where the direction of flow would be not as shown by the red arrows, due to local disturbed pressure conditions. The red arrow merely shows the general direction as between two or more states.

Q. But aside from the exceptional condition you point out in the instance of the Manufacturers Light & Heat Company, you intended to be understood that the constant and uniform direction of the flow of gas from wells from West Virginia into other states is with the points of the red arrows along these trunk lines?

A. Correct.

Q. Does gas ever flow backward in those trunk lines?

A. Why, it would not flow backward when the trunk lines are in operation. You could easily imagine a situation—for
2050 instance, in the trunk lines of the Eastern Oil Company, where there are two parallel lines in the same trench, located about 18 inches apart, if one of those lines were put out of service for certain purposes, and drained at the rear end, with the forward end closed, the gas in that particular situation would flow backward out of the drain pipe.

Q. But in the ordinary normal course of operation, the flow is all in the one direction, is it not?

A. Correct.

Q. If you have no compressor stations in operation, your gas can only flow forward?

A. It must always flow from the point of higher to the point of lower pressure.

Q. I know, but in the direction of the arrows from the well to the compressors?

A. Correct.

Q. Why did you tell us there is a flow backward and forward over the Ohio River crossings of the Manufacturers Light & Heat Company?

A. That happens to be a fact.

Q. How do you determine it to be a fact?

A. Why, I have studied pressure conditions on the system. That is, they have recording gauge pressure records in a good
2051 many towns on the system. The flow must always be from point of higher to a point of lower pressure. I remember very distinctly that a number of years ago I was called in to investigate that phase purely from an operative standpoint, because they had an argument as to whether a certain gas line—one of those river crossings, I don't recall which specific one of them—as to whether it was of any particular value.

Q. Did you find that condition of flow backwards and forwards crossing the state boundary line at any other place?

A. Any number of them.

Q. Among the Ohio River crossings of the Manufacturers Light & Heat Company?

A. There were a number, but I could not remember them now.

Q. Where were they?

A. On the upper part of the river—that is, up in the upper part of the Panhandle section. I could get that information for you if you want it; I can't give it to you from memory.

Q. What you have in mind, river crossings of the Manufacturers Light & Heat Company?

A. Yes, at points where gas comes in from Ohio and from Pennsylvania to a common point.

Q. As I understand you, the direction of that gas at the
2052 Manufacturers Light & Heat river crossings, whether the flow is from Ohio into West Virginia, or from West Virginia into Ohio, or from West Virginia into Pennsylvania, or from Pennsylvania into Ohio, is all dependent upon the relative pressure?

A. Yes, sir; it will always flow to the point of lower pressure.

Q. And where did you ordinarily, from the pressure records which you have examined, and from which you drew the conclusion that the flow was in this direction, find the pressure to be the highest during the greater part of the time—West Virginia, Pennsylvania or Ohio?

A. This particular investigation was made merely as to the boundary line between Ohio and West Virginia, and not between West Virginia and Pennsylvania. Usually the pressure conditions on the West Virginia side were higher.

Q. Where?

A. Pressure conditions on the West Virginia side were higher.

Q. During the larger portion of the time?

A. Yes. That, of course, was several years ago.

Q. I know, but during what proportion of the time did you find the pressure on the West Virginia side was greater than on the Ohio side?

A. I couldn't give you a definite mathematical value on
2053 that, because that investigation was made four years ago. I would say about three-fourths of the time the pressures on the West Virginia side were higher, but that is not meant to be accurate—I mean, in the sense that that is absolutely 75 per cent.

Q. The fact is, that unless it was a period of a very heavy drain or load on the West Virginia gas, the West Virginia pressure always exceeded, during the period covered by your observations, the Ohio pressure?

A. Oh, yes.

Q. The fact is, there is very little rock pressure left in those Ohio wells—is that true?

A. That is true.

Q. Very little volume?

A. Very little.

Q. Where did you tell us that the natural gas of the Carnegie Natural Gas Company, produced in West Virginia, was consumed?

A. Consumed largely in Pennsylvania, right here in the Pittsburgh industrial district, at the various steel plants of the United States Steel Corporation.

Q. The fact is, that the Carnegie Natural Gas Company is a subsidiary of the United States Steel Corporation?

A. I so understand it.

2054 Q. Then its chief object in life is to produce and transmit natural gas for the consumption of the steel plants in the Pittsburgh district?

A. That is true.

Q. Do you know of any cities, towns or villages in either West Virginia or Pennsylvania, which are supplied with gas by the Carnegie Natural Gas Company?

A. I cannot name a one.

Q. That is because you never knew of one, never heard of one?

A. That is true. Of course, I have not made a special investigation as to whether they might supply some small village. I know from the general field conditions that they do not supply any towns of any size.

Q. But you are not prepared to say that they do not supply any?

A. Certainly not. But I want it to be clear, that I wouldn't want to say that they might not supply some small hamlet along the main line.

Q. But you are not prepared to intimate to the Court that they do?

A. I am very sure that they do not supply anything of any size, because it is primarily an industrial company.

Q. I beg your pardon?

2055 A. It is primarily an industrial gas company.

Q. For the steel plants subsidiary to the United States Steel Corporation?

A. Correct—and, of course, has drained the field very greatly, because it has operated at a uniform load each hour of the day, and each day of the year, on the smallest acreage of any gas company of equal size operating in West Virginia.

Q. That is because they had no peak load?

A. That is it exactly.

Q. Do you know of any domestic consumers or any industrial consumers, other than subsidiaries of the steel plants, of the Carnegie Natural Gas Company?

A. I do not.

Q. What is the nature of these steel plants, if you know?

A. Well, they make various steel products, such as would be made in the plants of the United States Steel Corporation. Natural gas, of course, is used for various purposes in steel making.

Q. Blast furnaces?

A. Natural gas is never used in blast furnaces; coke is used there.

Q. But in the manufacture of steel?

A. Yes, sir.

2056 Q. For uses which you call industrial uses?

A. Oh, solely—Used in open-hearth furnaces and various heating operations, used in the tube mills.

(Pennsylvania Exhibit No. 39-G shown witness.)

Q. Now, I wish to direct your attention to your map, Pennsylvania Exhibit 39-G, purporting to be a map of the main lines of Carnegie Natural Gas Company in Pennsylvania and West Virginia, intro-

duced with your evidence, and ask you what you mean by the statement on that map, in red, "From wells natural gas is transmitted—by its own inherent tendency to expand—through pipes to many ultimate consumers in Pennsylvania?"

A. That refers to the different industrial consumers connected at the northern terminus of the line, and where incidentally the ownership is all the same. That feature, of course, is not brought out in the map.

Q. How many steel plants do you think of that the Carnegie supplies in Pennsylvania?

A. I couldn't give you the number, but there are a large number of individual consumers in each steel plant—that is, many of these steel plants are made up of a large number of individual units.

Q. What you mean by that, every department in the steel
2057 plant is a unit?

A. Yes. Each unit has its own cost system and must stand on its own feet, as far as production of output is concerned, and fuel and raw material input, and they are regarded as definite units and separate individual consumers, although the ownership of the property is the same. I think I can anticipate what is in your mind and clarify that, by merely stating that the term "ultimate consumers," as used on that map, does not for one moment mean to convey the idea that the Carnegie Natural Gas Company is supplying gas either to domestic consumers or to other industrial consumers outside of its own constituent properties.

Q. "Many ultimate consumers" is misleading?

A. On that particular map.

Q. In that sense?

A. It would be, yes, without the explanation.

(Pennsylvania Exhibit No. 39-F shown witness.)

Q. Let me direct your attention to your map Pennsylvania Exhibit No. 39-F, purporting to be a map of the natural gas property of the Philadelphia Company in Pennsylvania and West Vir-
2058 ginia. Is the legend on that map accurate in the title given to it?

A. It is.

Q. Does the Philadelphia Company conduct any operations in West Virginia?

A. The term "Philadelphia Company" is used on this map as representing the parent ownership of all of the constitutent companies going in to make the operating property as a whole. For instance, it includes the Pittsburgh and West Virginia Gas Company, in West Virginia, the Monongahela Gas Company, in Pennsylvania the Equitable Gas Company, in Pennsylvania, and, as I recall, about a half dozen other companies, all, however, owned by the Philadelphia Company, and all controlled and directed from one office in this building. The popular name, as far as the public is concerned, for these various groups, is the Philadelphia Company.

Q. Well, Mr. Wyer, you don't mean to intimate that you are

giving popular testimony, do you—that your maps are meant merely for——

A. No, but I am using the term, and used that term, in the valuation. For instance, it was impossible, on a map of this sort, to make any separation of intercorporate relationship, and the appraisal that was made of the Philadelphia gas property was
2059 made without any regard to intercorporate relationship at the time the appraisal was made, and the map shows all the property—that is, natural gas property—of the Philadelphia Company in the two states.

Q. But you do know this: that in relation to the properties of the Philadelphia Company, as you call them, the producing gas company in West Virginia is the Pittsburgh & West Virginia Gas Company, and that the Philadelphia Company throughout its career has taken especial care to maintain separate corporate entities, such as the Equitable Gas Company and the other companies you have mentioned; that the Pittsburgh & West Virginia Gas Company delivers its gas to the Equitable Gas Company at or about the state line between West Virginia and Pennsylvania; and that may be true as to other companies maintained in Pennsylvania, and that the transportation—I beg your pardon, transmission—of the supply of gas in Pennsylvania is by the Equitable Gas Company and the other subsidiary distributing companies in Pennsylvania. Isn't that a correct statement?

A. Yes. Each group is kept separate as far as the distribution is concerned, but the Philadelphia Company—president right on this floor—owns the whole outfit, and the policy of the entire outfit is the same, and directed from this office. And it was not
2060 possible in the making up of this map to go into all of that intercorporate detail. For instance, we have exactly the same situation on the map referred to here as Eastern Oil Company property. There are six distinct corporate interrelationships on that property, some very complicated—for instance, one where two corporations own part of part of the same line, another one where one owns the pipe and another one owns the couplers. Now you can't show small details like that on a geographical map. The title on the map, which reads "Map of Natural Gas Property of the Philadelphia Company," is correct. It shows the natural gas property that the Philadelphia Company owns in the two states.

Q. What are those companies of the Eastern Oil Company, as you now recall them?

A. West Virginia Central is one.

Q. What is the full title of that, if you please?

A. I wouldn't attempt to give that from memory.

Q. As you recall it, it is the West Virginia Central Natural Gas Company, is it not?

A. I wouldn't state whether it is the West Virginia Central or West Virginia Central Natural.

Q. Mr. Steptoe says the word "natural" should be out of it.
2061 A. It would be my recollection that it should. That is so complicated, however, that, notwithstanding the fact that I

have made an appraisal of that Eastern Oil Company, and have in the original appraisal a hand-colored map that does show the complicated intercorporate relationship, in all dealings with the company at the general office the matter has always been referred to merely as the Eastern Oil Company's natural gas property.

Q. Do you remember the names of any of the companies in Maryland?

A. One is the West Virginia and Maryland, and then there is a Northern Natural Gas Company that takes in part of it.

Q. And they get their gas from the West Virginia Central?

A. All the same organization.

Q. And included in your designation of the Eastern Oil Company?

A. Correct.

Q. Now, if it is true that the situation is as you describe, and for the purpose of designation on the maps it has been impracticable to separate what you call the constituent companies, how is it
2062 that you do not unite the Hope Gas Company and the Reserve Gas Company, the East Ohio Gas Company and the Peoples Natural Gas Company, under the designation of the Standard Oil Company?

A. The object in separating the Reserve from the Hope was merely to make it clearer and be able to show the detail. That was the sole object, and of course the gas goes in an entirely different direction, and separate. Of course, it is true that that entire group—that is, the East Ohio Gas Company, the Reserve, the Peoples and the Hope—are Standard Oil Companies. As far as I am concerned, there would be no objection——

Q. Now, the fact about it is this, is it not, that the connection between the Philadelphia Company and the Eastern Oil Company, the titles Philadelphia Company and Eastern Oil Company were selected because they convey more nearly the idea of unity of construction, operation and management?

A. Yes, that is true, as far as those two are concerned. In the Eastern Oil none of the gas companies in West Virginia even have the name on the office door, in Buffalo everything is operated under the name of the Eastern Oil Company. In the present instance, the Philadelphia Company—I don't know what their accounting
2063 practice is—but very frequently things will be taken care of by the Philadelphia Company as a corporation, in their corporate name, and the expense then allocated to the particular corporation in the scheme as a whole, to which it applies. As far as the East Ohio and the Hope are concerned, of course there is no uniform management, and not even a uniform policy—in fact, a rather bitter feeling between those two operating managements.

Q. Yes, I have noticed it in this hearing. Now, do you mean to intimate that these constituent companies of the Philadelphia Company and the Eastern Oil Company and the Manufacturers Light & Heat Company were all organized and their properties constructed at the same time, or by the controlling companies?

A. Certainly not. Very few gas companies are. Nearly always

it is a matter of their gathering together of individual plants, in order to build a larger unit, or of slow growth. In the matter of the Eastern Oil Company, it was a problem there of getting rid of surplus gas. The company, of course, was an oil company operating for oil, and as an incident to the oil development, found natural gas and then started to find a market for it and built—or rather started to build—pipe lines eastward, first going only a short distance
2064 and then starting out with the laterals and finally adding an additional line and ultimately going clear to Cumberland and Mt. Savage, Maryland. The Manufacturers Light & Heat Company is, of course, in the true sense, an aggregation of a number of smaller properties.

Q. Local companies?

A. Yes.

Q. In a large number of instances?

A. Yes. And that is true of most of the large natural gas companies today.

Q. Both in Pennsylvania, West Virginia and Ohio?

A. Yes. For instance, it would be true of the United Fuel Gas Company in West Virginia. It is, of course, true of the Ohio Fuel Supply Company in Ohio. And, in fact, if you were to trace back the history of practically all of these companies, you would find that one of two things happened—that is, not one started out with a definite vision from the field to build a huge natural gas system on some definite scale, and do that all at one time, but they either got together a number of small companies and started with that as a nucleus, or else started on a small scale and then expanded as the business grew.

Q. Now, with regard to your exhibit No. 46, purporting to
2065 be "Map showing principal towns outside of West Virginia, depending on West Virginia for their natural gas service," what was the theory upon which that map was made and that particular title selected?

A. Starting in with the Maryland group, every foot of gas used by every town in Maryland comes from West Virginia and can come from no other place. Going up into Pennsylvania and taking the Fayette County group, every foot of gas used by the domestic consumers on that property must come from West Virginia and can come from no other place. The company has a small local production, but it is so small as not to be of any consequence, and if the West Virginia gas were to be shut off, it would be the equivalent of shutting off all of those towns. Coming over to the next three groups, which include the main lines that run up in there, the percentage of gas coming in from West Virginia is so large that if that were shut off, the service would be paralyzed to the towns shown. This map, of course, does not show the towns in the northwestern part of Pennsylvania supplied by the Peoples Natural Gas Company in that part, the American Natural Gas Company, the T. W. Phillips Oil & Gas Company, the Pennsylvania Gas Company, the United Natural Gas Company, the Warren & Chautauqua Gas Com-
2066 pany, the Manufacturers Gas Company, and the Potter Gas Company. All of those that I have enumerated have their

own local Pennsylvania supplies and would not be affected by the shutting off of the West Virginia gas. Coming into Ohio, taking the group along the main lines of the East Ohio Gas Company, running from the river northward to Cleveland, the East Ohio Gas Company's production in Ohio is so small that the shutting off of West Virginia Gas at the river would simply paralyze the service of all of those towns. Coming over to the next large interstate connection——

Mr. Eagleson:

Q. That is, all of those towns in Ohio?

A. Yes; East Ohio Gas Company, as far as I know, does not have any property outside of the State of Ohio. Coming over then to the next large interstate connection, namely, that of the Connecting Gas Company, bringing gas from the Reserve Gas Company in West Virginia, to Sugar Grove, Ohio, there are some towns that are fed directly off of that line. The Connecting Company is merely a transporting—a transmitting company, taking the gas from West Virginia and carrying it over to Sugar Grove, Ohio; it has no production of its own. At Sugar Grove, Ohio, the gas that is transmitted through the Connecting Company's line is then transferred to the Logan Natural Gas & Fuel Company, and the Northwestern Ohio Natural Gas Company, which is one of the operating groups of the Ohio Fuel Supply Company. That West Virginia gas going to those two groups is the only gas that those groups of towns have. And that applies to the Northwestern lines going to Toledo and taking in the small towns en route, as well as the Logan Company lines going over through Ohio and into Indiana, supplying various towns en route.

2067

Mr. Hoffheimer:

Q. I beg your pardon. I would like to hear this description to the end, but the question was as to the theory upon which that map was prepared, and not an intimate and detailed discussion of all of the features of the map. What you were trying to show was the location of the towns outside of West Virginia which you regarded as dependent upon West Virginia for natural Gas?

A. Precisely, as the title states.

Q. That is the answer to the question, is it?

A. Yes, sir; if you want it briefly.

Q. And you included in the list of towns every city, town or village in Pennsylvania, Maryland, Ohio, Indiana and Kentucky, in so far as it was practicable to place them on the map——

2068

A. No, sir.

Q. Just wait until I finish the question—which is supplied with natural gas by any company receiving gas from West Virginia?

A. Correct. Providing the town is so located that it could not easily be separated. Now, for instance, there would be an exception

to the broad statement in the case of the Peoples Natural Gas Company, where they have a line coming down toward Pittsburgh from the northern part of the state. That line is not shown on this map, and none of the towns located on that are shown, although the Peoples Natural Gas Company is a purchaser of West Virginia gas.

Q. But aside from some peculiar exception of that kind, the statement involved in my question is substantially correct?

A. Yes. In brief, it represents the towns where the service would either be very greatly curtailed or destroyed entirely, if the Act in question were to be enforced.

Q. Well, putting it in another way: They are all towns served by gas companies part of whose supply, or all of whose supply, is West Virginia gas?

2069 A. Correct.

Q. I wish to ask you this: Where is your map showing the principal towns in West Virginia depending on West Virginia for their natural gas service?

A. I have not prepared such a map.

Q. You were not asked to do so?

A. No, sir. Such a map, of course, has been prepared, but it was not prepared for this case.

Q. Is there, in fact, a considerable number of cities, towns and villages in West Virginia dependent on West Virginia for their natural gas service?

A. Oh, yes, quite a large number of towns in West Virginia, but not as many as in the states of Pennsylvania and Ohio. And in practically all cases, those are towns that are either adjacent or very close to main transmission lines.

Q. Of what companies?

A. Of the Eastern Oil Company, Hope Natural Gas Company, United Fuel Gas Company, the Philadelphia Company and the Manufacturers Light & Heat Company; then of course there are other companies like the Huntington Gas & Development Company, local, the Randall Gas Company, and the company that supplies Fairmont, and the Clarksburg Light & Heat Company, which

2070 is purely a local company.

Mr. Steptoe:

Q. You did not purposely omit the Reserve, did you?

A. On account—Mr. Hoffheimer asked about towns connected, towns of any size.

Mr. Hoffheimer:

Q. Now, you have told us several times that when the gas comes out of the well it starts on its journey, and by continuous travel, proceeds to the "many ultimate consumers in another state." You meant by that statement that when gas onee starts out of a well it keeps on going until it gets to the ultimate consumer?

A. Correct.

Q. That would be true, whether the ultimate consumer was in West Virginia or in some other state?

A. That is true. State lines haven't anything to do with gas flow.

Q. That is, you don't mean to intimate that the propensity to travel to the ultimate consumer in another state is a peculiar property of natural gas, do you?

A. No, sir. State lines neither accelerate nor retard gas flow.

Q. Nor is that propensity to travel along on a continuous
2071 journey, as you put it, dependent in any degree in these days upon the existence of compressor stations?

A. When the pressure gets down to a point where it is no longer high enough to give a differential head to force the gas through, then, of course, the gas must be recompressed and the pressure increased, in order to permit it to travel on through.

Q. The fact is, in these days of compressor stations, the gas won't go very far by its "inherent tendency to expand through pipes to many ultimate consumers in another state," unless it is artificially compressed, will it?

A. Well, now, for instance, gas going to Cleveland, Ohio, is compressed at the Hastings station, and travels by its own inherent tendency to expand from Hastings, West Virginia, to Cleveland, Ohio. That is one of the longest gas hauls by single compression in the country. The gas, for instance, coming out of the Reserve line is first compressed at Wilsonburg and then at either Kennedy or Camden, and carried with that to Sugar Grove Ohio. It is there recompressed, and the gas that goes to Toledo is carried to another compressing station, shown as the Tonkin station, rather close to North Baltimore, Ohio, where the gas is recompressed and
2072 then travels on to Toledo.

Q. Well, the fact about it is, whether in the case of the Reserve Gas Company, or any of the others, that the initial rock pressure is insufficient to carry the gas along to the ultimate consumers, but that in the course of its pilgrimate to reach the ultimate consumers, the rock pressure—the pressure is insufficient to compress or recompress as often as necessary?

A. Yes, sir,—the only feasible way to, first, get the gas out of the ground, and then, secondly, get it through the transmission lines to the ultimate consumer.

Q. In the case of a well feeding into a line, which line in turn carries gas partly to points of consumption in West Virginia, and partly to points of consumption in Pennsylvania and Ohio, does that gas have any label on it?

A. It does not. There is no original package, no identity, nothing to distinguish ownership, all intermingled.

Q. Well, how do you find out then where this gas is going when it comes out of the well and finds its way into a line?

A. Well, for any particular well in West Virginia, it might be very difficult—in many cases absolutely impossible—to tell, the way the well is connected to some of these large trunk lines,
2073 whether that gas is ultimately going to get to Pennsylvania, or Ohio, or, in other cases, whether it is going to get to Ohio or Indiana.

Q. In a company like the Hope Natural Gas Company, which is

supplying gas partly in West Virginia, and supplying it partly to companies which in turn supply the other states, can you tell when that gas starts on its continuous journey, as you call it, from the well, where that gas is going?

A. No, sir.

Q. Can anybody?

A. No, sir. That is, I mean, you could not state that this particular thousand feet of gas is going to be used in West Virginia, and this particular thousand feet of gas in the Hope property, will be used through the Peoples Company in Pennsylvania, and this one through the East Ohio Company in Ohio. The gas is all intermingled, without any chance for identity.

Q. And where does the opportunity first occur for identifying the gas which is going into Pennsylvania or Ohio or any other states?

A. There would be no chance for identifying the gas from particular individual wells. The only gas that you could identify
2074 would be the gas passing the measuring station at the state line, and that would be merely a total volume measurement giving you the total volume passing that point, without any relation as to whether it came from any particular well in West Virginia.

Q. Well, bearing in mind the red arrows on your maps and the general continuous flow of gas, as you stated, are you ever able to tell whether any particular 1,000 or 10,000 or 100,000 or 1,000,000 feet of gas is going to get out of West Virginia into another state, until it has passed the last lateral line serving consumers in West Virgnia?

A. You can't identify it as such. Gas merely starts in the field on its general journey and goes in the general direction shown by the red arrows, and of course if that is taken out within the state, never gets beyond the state line.

Q. But the point I am making is this: Not the gas that is consumed within the state never gets beyond the state line, but the point is that you cannot tell whether any gas, or what gas, is going to reach a point beyond the boundary of West Virginia, until you have passed the last lateral serving West Virginia?

A. That is, you can't identify any given 1,000 cubic feet.
2075 Of course, as a general operating condition, you know that with a certain pipe line pressure situation, a certain percentage of the gas that starts for the interstate boundary line will ultimately reach it and cross it, going into the other state.

Q. In other words, that some gas will reach the boundary line?

A. Yes.

Q. Do the gas companies have any means of directing the flow of gas in any particular direction, or through any particular pipe line?

A. Well, you can always control the flow in a given line, by controlling the pressure on that line, which means, of course, control gates.

The Commissioner:

Q. Gates?

A. Gates. The term "gates" as used herein is a trade term, which refers to gate valves.

Mr. Hoffheimer:

Q. And by closing those gates, taken in connection with the pressure, the particular pipe lines into which the gas is going can
2076 be regulated by the companies, and are so regulated in fact—Is that true?

A. Correct.

Q. So that the human element does enter into this transmission, "by inherent tendency to expand through pipes to many ultimate consumers in another state"?

A. The inherent tendency to expand is the potential feature of the situation. As to whether the gas will be permitted to expand depends on the physical condition of the line, which physical condition embraces not only the location of the line, but the openings of the various gate valves in the line.

Q. And those are controlled by the operator?

A. Entirely.

Q. Taking a company like the Hope, which is supplying gas both to Pennsylvania and Ohio, does it have any control over the proposition whether any particular volume of gas, or the output of any particular territory, or the gas carried by any particular pipe line, shall go to Pennsylvania, or, on the contrary, go to Ohio?

A. That question cannot be answered by yes or no. There are certain local conditions where wells are feeding into lines crossing the state boundary, and where the direction of flow under normal conditions must always be the same, where it would always
2077 be an absolute certainty that the gas from those wells would get into a certain line, crossing the state line at a certain definite boundary, and going to a certain definite group of towns; for the property as a whole, however, it would be impossible to tell ordinarily—and that is especially true with a large number of wells in the southern part of the field—whether the gas would go one way or another. It is, of course, relatively very easy to proportion the amount of gas going into Ohio, to the East Ohio Gas Company, or to the Peoples Gas Company, or to the Fayette County Gas Company, by mere change of position of gate valve, but that change in position of gate valve will determine the relative volume as a total that will pass, and will have no bearing and will give no information on identity from either individual wells or even local fields.

Q. But what I have in mind is this: If the Hope Natural Gas Company desires to deliver to the Peoples Natural Gas Company in Pennsylvania, 10,000,000 feet of gas, it can so arrange its gates and systems that the Peoples Natural Gas Company will get that 10,000,000 feet?

A. In general, that statement would be true. Of course,
2078 you must bear in mind that that 10,000,000 will not be available for either of the other two interstate lines. That is, it means it would divert 10,000,000 feet from either the East Ohio or the Fayette County Company, assuming that it would be physically possible to make the diversion.

Q. Take the Hastings compressing station of the Hope Natural

Gas Company, with which you are familiar. The trunk lines proceeding from that station go to both Pennsylvania and Ohio, do they not?

A. Yes.

Q. Now, it is not left to chance or to inherent tendencies of the gas going through that Hastings Station, to determine whether it shall go to Pennsylvania or whether it shall go to Ohio, is it?

A. It is not left to chance as to which path will be opened. After the path has been fixed, the gas flow is then by the inherent tendency to expand.

Q. That path is fixed——

A. By the position of the gate valve and the pipe.

Q. But the pipe is permanent and not subject to constant rearrangement, and the gate valves being subject to operation as the operator pleases, it is the operation of the gate valves which, in practical operation, determines whether that gas shall go to Pennsylvania or whether it shall go to Ohio, in fulfilment of some contract with one company or the other?

2079

A. Correct. But just to avoid any misunderstanding as far as you are concerned—Taking the illustration that you have cited on the map, by the control of the gate valves at the Hastings station, you could throw gas to any one of three general lines,—that is, to the two groups in Ohio, where the East Ohio are connected, or to the Peoples, but you could not throw gas to the Fayette County Company, because of position of line. In other words, you would get the situation which the West Virginia Commission developed when they ordered the physical connection between the two companies in West Virginia, and ordered it on such a line, so that not only would the local West Virginia Company not have gotten any gas, but the gas that was in that line would have been fed out and gone into the Hope line, due to the fact that the pressure in the Hope line was smaller than in the other.

Mr. Eagleson:

Q. Would the result of that be just the exact opposite of what the Commission had expected or anticipated?

A. Yes, sir. That is, instead of the Hope furnishing gas to the local West Virginia company, the local West Virginia company would have drained part of its gas into the Hope line.

2080

(Pennsylvania Exhibit No. 39-G shown witness.)

Mr. Hoffheimer:

Q. Calling your attention again to the map of the Carnegie Natural Gas Company, Pennsylvania Exhibit No. 39-G, you have indicated certain relatively small areas and natural gas fields?

A. Correct.

Q. Do you mean by that that the areas indicated as natural gas fields are the entire leased acreage of the Carnegie Natural Gas Company?

A. I meant to convey by that two things: First, to give, as ac-

curately as you can in any sketched outline like this, the general location of the principal wells; secondly, to bring out the fact that the Carnegie Natural Gas Company's policy for years has been not to carry a large acreage. They carry the smallest acreage of any natural gas company of its size operating in West Virginia. As the result, the regular public utilities companies which have carried large tracts of acreage, have had much of their gas drained
2081 out by the United States Steel Corporation, operating through the name of the Carnegie Natural Gas Company, because it has been a very common practice for the Carnegie Company to go in and drill in schoolhouse lots, graveyards, town lots—in any place large enough to locate a derrick—and let the regular utility companies carry all of the acreage surrounding. The United States Steel Corporation, by virtue of its large industrial use of gas, has done more injury to the West Virginia field in draining gas away from the large holdings of the large public utility companies than any other single operating factor in the field.

Q. But on this Exhibit 39-G, the map of the Carnegie Natural Gas Company lines, you did not mean to imply that the outlines of natural gas fields were the whole extent of the natural gas areas in that territory, or the surrounding territory?

A. Certainly not; merely to represent what the Carnegie Company was operating in.

Q. That is what I want to make clear. It represents active operations?

A. Very active, every hour of the day, every day of the year.

2082 Q. It is operated territory as distinguished from unoperated?

A. Yes, sir, and operated under the most intense conditions known in the field.

(Pennsylvania Exhibit No. 39-D shown witness.)

Q. Now, directing your attention to the map "Pennsylvania Exhibit No. 39-D," pertaining to the property of the United Fuel Gas Company, do the areas indicated as gas fields comprise all of the leased territory of the United Fuel Gas Company?

A. It comprised all of the leased territory at that time, but of course again we have the same situation that you had on the preceding map—that it is a map of a particular company and not a map of a state gas field. It represents the particular company's part in that state field.

Q. That is what I wanted to make clear. Now, I notice on this map of the United Fuel Gas Company—Pennsylvania Exhibit 39-D—the Boone gas field, which apparently has no pipe line connected with it. Is that in accord with the facts?

A. That was in accord with the facts on January 1, 1919.

Q. Is that in accord with the facts at the present time?

2083 A. I can't answer from first hand information.

Q. Is the Boone field territory in which gas is or was produced by any company?

A. Well, the Boone field at the time this map was made was a field made up of competing companies, and at that time no one had developed far enough to justify the installation of a pipe line. Now it is quite likely that since that time developments have been pushed far enough to justify the laying of a line into that field.

Q. And the same comment would apply as to the outlines of the gas fields on the map of the Philadelphia Company property, Pennsylvania Exhibit No. 39-F? That is to say, that the gas fields are intended to represent the location of the operations of the Philadelphia Company and not to outline the natural gas producing territory as a whole?

A. Correct.

(Pennsylvania Exhibits 40-A, 40-B, 40-C and 40-D shown witness.)

Q. I direct your attention to your Exhibits 40-A, 40-B, 40-C and 40-D, relating to daily actual and normal atmospheric temperatures at Parkersburg, West Virginia, during certain periods of 1916, '17, '18 and '19. I notice in a note at the top of each of
2084 these diagrams the statement that "the low points are the ones that create such abnormal demands for domestic natural gas service that necessitate the curtailing of industrial gas during such periods." What did you mean by that statement on those diagrams, with relation to the curtailment of industrial gas?

A. The natural gas service, as used for domestic purposes, has two clearly defined roots of uses. The first is for cooking, hot water heating and general laundry work, where the use is practically uniform each month out of the year—that is, for this service the consumption in July would be nearly the same as the consumption in January. However, in the second group of uses, namely, house heating, the demand will be proportional to the drop in temperature, as that drop falls below about 68 degrees Fahrenheit—that is, as soon as the ordinary room temperature gets below 68 or 67 degrees Fahrenheit, the average domestic consumer, if he has a gas stove in the house, will begin using gas. If the temperature drops very much below that, the use of gas will increase almost in a direct proportion to the drop in temperature. For instance, if you have a ten degree drop, you will have a certain consumption for a given residence. If you have a 30 degree drop, you would have more than three
2085 times the consumption for the same residence. For this reason, a drop in atmospheric temperature very greatly increases the demand for natural gas for heating; and, in fact, if you were to plot the temperature curve upside down—that is, with the zero at the top—and plot the volume demands on the same sheet, you would find the curves in practically all cases to be nearly parallel. When the temperature is cold—that is, when the air is cold—the demand is large, and when it is warm the demand is low. Now, the Exhibits 40-A, 40-B, 40-C and 40-D merely show exactly what happened at a typical Weather Bureau station in West Virginia, and the marked depressions under the normal temperature

line, represent the marked demands for domestic natural gas that would be created by the temperature deficiencies shown by the black areas. In fact, in checking back with the curtailment dates of some of the companies, it has been found that their curtailment dates agree remarkably accurately with the temperature conditions on this curve—for instance, a certain company may, by way of illustration, be able to carry its industrial load, until the atmospheric temperature gets down to 40 degrees. When it gets down to 38, part of that industrial load must be shut off, and as the temperature de-
2086 creases—and thereby increases the domestic demand—since no more gas is available—only a fixed amount being available—if the domestic consumer is to be given precedence in the matter of service, then the industrial gas must be shut off during that extreme cold period. Incidentally, the diagrams also bring out a feature not ordinarily appreciated, namely the impossibility of looking forward and figuring definitely as to exactly what is going to happen in any given month, in any given winter. For instance, the temperature conditions in January, 1916, were radically different from those in January, 1917, and the temperature conditions in December, 1916, were radically different from those in December, 1917; and the biggest difference of all was between December, 1918, and the Decembers of 1916, '17 and '19.

Q. What you are trying to prove that you cannot tell in advance what the weather is going to be?

A. You can't tell what the effect of the weather is going to be on your demands for gas.

Q. I know; but weather is not created with reference to natural gas or natural gas consumption, is it?

A. It is not. And the natural gas operating conditions, if you are going to give the domestic consumer precedence, must be subordinated at all times to the weather conditions. If you don't do that, you will simply have unbearable service.

2087 Q. What I am trying to find out from you is this: whether by your statement on these exhibits 40-A, 40-B, 40-C and 40-D, in which you refer to the necessity of curtailing industrial gas, you have in mind actual curtailment of companies involved, or whether you intend to express your opinion that industrial gas service ought to be curtailed during those periods?

A. I had in mind both. First, the industries in West Virginia and the other states have been shut off in the past during these very cold periods, and I believe as a matter of humanity, that the domestic consumer should continue to receive precedence in the matter of service.

Q. Well, as a matter of fact, during these periods which you have indicated on the exhibits mentioned, was the industrial supply shut off?

A. The industrial gas supply for a number of the companies was very greatly curtailed and in many instances shut off entirely. Of course, to be fair and equitable, that curtailment, from my viewpoint, ought to be made without any reference to state lines; that is, the consumers in Ohio should be shut off at the same time that the in-

dustrial consumers in West Virginia are shut off. In other
2088 words, you should not play one state against another. And this, of course, we know did happen. While I cannot give you the exact details now—it just comes back to me as a matter of memory—during the war certain industries in Indiana went on using West Virginia gas out of the main line, whereas certain industries competitive of those, in West Virginia were off——

Q. That is, their supply was shut off?

A. Yes. I can't verify the names or dates. That was a mere incident that came up during the war. We do know, as a matter of fact, to be very fair with you, that last winter in Columbus industries were on at times when no doubt industries were shut off in West Virginia. For instance, at the gates of Columbus, Ohio, in last January you had delivered there 50 per cent more gas that went into that town than any other town on the entire Ohio Fuel Supply Company system in the state. Yet we know, as a matter of fact, that we had the most acute suffering in Columbus, as far as the domestic consumers were concerned, that we have ever had, and that that suffering was due to the fact that the local gas company kept on a certain number of industrial consumers, and that those industrial consumers did use gas during that extremely cold weather period. And
2089 the local gas company has even gone so far as to refuse flatly to disclose who those consumers were, or what amounts they used, although the Chamber of Commerce has made a request for that information, and a local club organization has made a request. I am merely citing that as one glaring instance.

Mr. Eagleson: I would like to interject a question there:

Q. What is the fact, Mr. Wyer, as to whether or not, if there were industrial gas used last winter in Columbus, as you suggest, it was not used clandestinely and not in plain violation of the orders of the Public Utilities Commission of Ohio?

A. It was, and that, of course, is the reason why the local gas company has refused absolutely to play square with the public and give that information.

Mr. Hoffheimer:

Q. What was the name of the local gas company in question?

A. The Ohio Cities Gas Company is the owner of the two distributing plants in Columbus. They are locally operated under the names of the Federal Gas & Fuel Company and the Colum-
2090 bus Gas & Fuel Company.

Q. You are talking now about Columbus, in the State of Ohio?

A. Yes. I am merely mentioning that, because I happened to have first hand information there last winter.

Mr. Eagleson:

Q. What would you say as to whether or not it is not possible for a consumer, in the night season, for instance, being a commer-

cial or industrial consumer, when they are going along and presumably gas shut off to their plant or hotel building or office building by order of the Commission to clandestinely open the gate and turn that gas on in the night season—or, more bluntly speaking, steal gas, until they are dug out and discovered, either by the company or by a representative of the Public Service Commission; and might that not have been probably prevalent to a certain extent in Columbus, instead of the wilful violation of those orders of the Commission and Council of Columbus.

A. Undoubtedly the situation that you describe prevailed, because we know positively that it did prevail in other instances.

Q. Your statements with reference to other violations of orders are based upon your examinations as a representative of the

2091 Bureau of Mines?

A. Yes, sir.

Mr. Hoffheimer:

Q. I believe you stated in answer to the question before we drifted off into this Columbus, Ohio, iniquity, that your reference to the curtailment of industrial gas on these Exhibits 40-A, 40-B, 40-C and 40-D, had reference not only to actual curtailment, but also your personal views that the industrial gas ought to be curtailed?

A. In accordance with what apparently is going to be the fixed policy of the commissions, to give the domestic consumer precedence. That is the only humane way of conserving the gas.

Q. You mean by curtailment, merely diminishing the industrial supply?

A. During the peak load period, first the curtailment, so as to give the domestic consumer enough for adequate service, and if that curtailment will not suffice, then the industrial should come off entirely, during the peak load period. For instance, one thing that could be done without the slighest injury to anyone, would be for all the window glass plants in West Virginia that are seasonal, operated just a few months out of the year, instead of operating during the

2092 months of December and January, as they invariably do now, operate during the summer months and keep off of the peak load entirely. They, of course, will come back and tell you that they can't get their men to work under summer conditions. The temperatures, however, around a glass plant are no higher than around an open-hearth furnace, which runs every day in the week, and one manufacturer at Mannington has actually accomplished it, and by putting in an air-cooling system, has demonstrated that he can operate in the summer time, and his output in summer is just as large as his output in a cold winter month; and he expects to stay off this winter during disturbed conditions.

Mr. Eagleson:

Q. Where is Mannington?

A. Rather close to Fairmont, fourteen or fifteen miles from Fairmont, West Virginia.

Mr. Hoffheimer:

Q. Well, I don't suppose that the rules of the Window Glass Workers' Union involve acting in harmony, so far as that is concerned. You happen to be one of the gentlemen who have been publicly advocating the abolition of all industrial gas consumption, have you not?

2093 A. Ultimately, yes. Immediate facing of the situation as it exists at the present time, with a view of ultimately, when the rate reorganization will permit it, getting rid of industrial gas. It is the only thing that will save the natural gas industry. If that is not done, and if it is not done within the very near future, the natural gas industry in the United States is doomed inside of five years.

Q. I was trying to get your idea of ultimacy. You say that the industrial gas consumption will have to be shut off ultimately or the natural gas industry is ruined. I am asking you now, right in connection with the suggestion of necessity of curtailment of industrial gas during particular months, are you not one of the gentlemen who have been publicly advocating the present or almost immediate elimination of natural gas for industrial purposes?

A. I have recommended publicly and privately, both by written and spoken word, that the natural gas companies of the United States should immediately carry out what is known as Recommendation No. 1 of the National Committee on Natural Gas Conservation, which recommendation merely provides for a study of their operating conditions, and that each company brief its own local situation,

2094 with a view of working out from each local company's viewpoint what re-arrangements in operating conditions would be necessary, both on the rate end and on the volume end, to permit such company to immediately curtail, with a view of ultimately eliminating, industrial gas.

Q. The point is that you have advocated the elimination of industrial consumption at the earliest possible moment?

A. I have always stood squarely on the big fundamental that the domestic consumer's service, for humane reasons, should be superior to the industrial use, and that the domestic consumer should be given precedence in the matter of shortage.

Q. I know, but I am trying to get at this: you have advocated, and are advocating at the present time, the elimination of all consumption of gas for industrial purposes?

A. I am not eliminating consumption of natural gas for all industrial purposes immediately. All of these industries—I will not say all, but practically all of these industries—have certain uses for a clean gas, such as natural gas, for which uses it is very desirable. Most of the natural gas used in industries is misused—that is, it is used where an ordinary solid or dirty fuel would answer just as well.

For instance, take the ordinary window glass process, the

2095 window glass manufacturers have lost a great deal of money in the last two years in trying to use producer gas made from West Virginia coal, without appreciating two very big fundamental features, namely, that West Virginia coal invariably carries sulphur.

Sulphur in coal means sulphur in the producer gas. Sulphur in the producer gas means a lower grade of product or ware. Now, there are certain operations, for instance, in the heating of the tanks, where dirty gas can be used. There are certain other operations, in the gloryholes, for instance, and in the annealing, where in furnaces, as now constructed, the flame comes in contact with the ware, that a pure gas is essential. The first step in the process of curtailment would be to immediately cease the misuse of natural gas. For instance, just as quickly as the industry could change over, I would have them use cheaper and inferior fuels—I mean, cheaper as far as quality is concerned—for those operations where natural gas is not essential, where the quality of the natural gas can be made to count. One thing that all of you people have lost sight of, that all of the engineers in the universe have never been able to even approximate a manufactured gas that has either the heat value or the
2096 purity of natural gas. All manufactured gas has certain impurities that will give trouble if not removed. The removal of those impurities is always a serious problem. It seems to me there can be absolutely no justification for the burning gas in manufacturing paving brick and ordinary building brick in West Virginia of the finest fuel that was ever made in the universe, especially when that fuel is used crudely, as it is. The rational view of getting at the problem would be to eliminate all of those industries,—let the industries have natural gas for such purposes, where the quality of the gas will count, and let them continue to have that for as long a period of time as the volume available will permit. By so doing you would very greatly increase the value of gas, and by raising the field level price, you would be able to get very much more gas out of the ground, and would add from fifteen to twenty years to the life of natural gas for the United States generally. Of course, ultimately there will come a time when, if the humane viewpoint that I have advocated and always stood for is permitted to stand, there will not be enough gas for both domestic and industrial consumers. Obviously then you will have no natural gas for general industrial work. That is not a hypothetical or theoretical condition. For instance, Toledo, Ohio, where the in-
2097 dustrial consumption was very large at one time, is practically all on a straight domestic basis today. Cleveland, Ohio, is practically on a domestic basis,—I mean, at the present moment. And there are any number of towns in Ohio where the industrial consumption is practically a thing of the past. For instance, you will have no industrial gas used in any of the towns of the Eastern Oil Company in West Virginia or Maryland. That, of course, is in accordance with an order of the Utilities Commission of your own state, where they have prohibited the use of industrial gas on that system merely to protect the service to the domestic consumer, on the theory that humanity requires that the industrial consumer should be given precedence.

Mr. Hoffheimer: I move to strike out the statement of the witness as to the order of what he calls the Public Utilities Commission—in fact, the Public Service Commission—of West Virginia, as not the

best evidence; and in so far as the answer relates to the motives or purposes of the Commission, because the witness's statement is a mere opinion or conclusion of his own.

The Commissioner: Note the motion.

2098 Mr. Hoffheimer:

Q. I think you went beyond my question. You elaborated on this theory of industrial gas curtailment and ultimate elimination. Take your idea as you have outlined it in your last answer, that the use of industrial gas should be limited to what you designate as the essential operations.

A. Yes, sir.

Q. And ultimately that industrial gas is to be eliminated?

A. Yes, sir. For instance——

Q. Now, wait, let me finish my question. How is that to be brought about?

A. The easiest way to bring it about will be to carry out the co-operating scheme that has been put in operation between the five State Utility Commissions; that is, between the Utility Commissions of West Virginia, Maryland, Pennsylvania, New York, Second District, and Ohio, where the fundamental object is to handle the situation of all five states as a unit, without preferential advantages to any state, merely a fair and equitable handling of a resource situation. It is not possible for certain companies to eliminate, as they are now operating, industrial gas, and live, under the present rate situation. The elimination of industrial gas in all cases will mean a complete reorganization of the rate fabric, and that re-
2099 organization must take place simultaneously with the curtailment of industrial gas—that is, as the industrial gas comes off, the domestic rate, or the only rate there would be, must go up, and those industries using natural gas for essential purposes should, of course, be required to pay the straight domestic rate. It is not something that can be done over night; it cannot be done in a year, but if the problem is faced fairly and squarely in the immediate future, in the next two or three years, an equitable solution can be worked out. But it can be worked out only as the rates are increased with the curtailment of sales. Incidentally you can easily show that the domestic consumer can pay the increased price per thousand, and by using conservative methods in the home, in the use of gas, not increase his annual bill one cent—that is, the increase in price per thousand will not mean any increase in annual revenue to the gas company, because it will get its annual revenue from a very much smaller sale of gas. The ordinary domestic consumer could easily have his consumption for the same service, and if conservative methods were applied, intensively, could make one foot of gas do the work of three. Now, that conservation program must be put in operation simultaneously with the plan to
2100 curtail natural gas for industrial use.

Q. You are talking about raising the price to domestic consumers, do you also involve the raising of price to the industrial consumers who are left on to use gas in essential operations?

A. Yes, sir.

Q. And yet you say that the aggregate amount of revenue received by the gas companies will not be increased?

A. It will remain substantially the same, because, while you will charge a higher price per thousand, you will sell a smaller number of thousand cubic feet,—in fact, it has been demonstrated time and again that it is immaterial as to whether the domestic rate, for instance, is 10 cents or 80 cents, the consumer's average annual bill will remain substantially the same.

Q. And the aggregate of all domestic bills will remain substantially the same?

A. Yes, sir.

Q. How about the industrial end of it?

A. The industrial consumption will be very greatly curtailed. Essential uses are a relatively small part of the total amount of gas now largely misused in industrial operations, and in all such cases the consumer can not only afford to pay the domestic price,
2101 but, at any domestic price that would be considered at the present time, natural gas for essential industries would be cheaper than any other fuel that the industries could get for strictly essential uses.

Q. Then taking into consideration the curtailment of industrial consumption, the aggregate revenue for industrial gas will be very materially decreased, will it not?

A. Well, you cannot make any general statement that would apply to all companies. There are some companies where a complete reorganization is possible with relatively very little change in the industrial situation, because the industrial situation is small. There are other companies where the industrial use of gas is large, where it will be much more difficult, and for that reason no general statement can be made. Neither can any uniform procedure be followed. Each gas company must have its own local problem worked out to meet its own local operating conditions.

Q. Well, what is going to happen to your gas price to domestic and industrial consumers?

A. The domestic gas price is going to go up.

Q. To what extent—give us some idea.

A. Communities inside of two years will be begging for
2102 the privilege of paying from 75 to 90 cents for natural gas. And it will be——

Q. It is not a question of what they will beg. I want to get your idea of where the curtailment and ultimate elimination of industrial gas is going to send the domestic price, and where it is going to send the industrial price as to the industries permitted to remain during the period of curtailment and in advance of absolute elimination of industrial consumption?

A. Speaking generally, the domestic rate within the next two years for many communities will be in the neighborhood of 75 cents per thousand cubic feet. For essential uses with the present prices of competing commodities, 75 cent natural gas would still be very much cheaper than any other fuel that an industrial consumer could

buy. For instance, at the present time, the only competitor that you would have for natural gas for industrial uses would be oil. With fuel oil in the neighborhood of 12 to 15 cents per gallon, and requiring from seven to eight gallons of oil to a thousand feet of gas, it becomes very obvious that a 75-cent price for natural gas for essential industries is cheaper than the oil. All of the now known information regarding the petroleum industry in the United
2103 States indicates very clearly that we have gone over the crest in our national production, and that oil will become scarcer in the future. Therefore, we may not look forward to marked decreases in prices of fuel oil. There is no other fuel that the consumer—that is, the industrial consumer using the gas for essential purposes—could get that would do the work as easily and as satisfactorily as natural gas. For instance, just recently, the Mullins Boat Manufacturing Company, at Salem, Ohio, bid one dollar a thousand for the use of natural gas in their industrial plant. Potteries at Crooksville, Ohio, are today paying 60 cents a thousand for the use of natural gas in ordinary pottery kilns. If those potteries at Crooksville, for instance, would put in the same type of kiln that is used in one town in West Virginia—that is, the tunnel type of kiln—natural gas at $1.80 a thousand would be the same cost as far as the per cent of total fuel cost is of total income received from the public, because such a tunnel kiln would enable them to get the same output in ware as they now get with a very much larger volume of natural gas in the ordinary kiln. Incidentally, as a part of this increased retail price, you would ultimately raise the field level price, and where you have six, eight and ten cent prices for gas in
2104 the field, if you had a 75 cent retail price, you would then have field level prices in the neighborhood of 25 or 30. That increased field level price would do two things, both of which are impossible at the present time—first, permit the very much longer operation of old wells, thereby getting out a large amount of the residue gas that must now be left in the ground; and, secondly, permit the drilling of low volume—low pressure—wells in practically proven territory, where the chance of getting a dry hole is small, but where it is a foregone conclusion that the volume of the well and the rock pressure will be small, and where under existing low price conditions it is not possible to operate such low volume, low pressure wells, but where they could be profitably operated under the higher price level. In conclusion, the only thing that will conserve natural gas is an adequate price; that is, you must make natural gas worth saving before it will be saved.

Q. Well, the fact is that you have advocated consistently the raising of the price——

A. And persistently.

Q. —as a means of cutting down natural gas consumption and reducing it or combatting it?

2105 A. Yes, sir, and thereby greatly prolong the period of time that natural gas will be available to the public.

Mr. Eagleson: I want to suggest that the plaintiff states — desire to be forbearing to the maximum degree, but we do not want to

be understood as feeling that all of this somewhat wordy discussion —and sometimes far afield—is within the limits of cross-examination.

Mr. Hoffheimer: I wish to suggest, whether on the record or off it, that I have not given the answers to these questions. I agree in thinking that they could have been answered in very much less space on several occasions.

The Commissioner: Note counsel's statements and let the examination proceed.

Mr. Hoffheimer:

Q. Then, as a matter of fact, the program you are advocating by reducing the quantity of natural gas consumed in industries, and finally eliminating it, and the reduction of the amount of domestic consumption, will necessarily result in reducing the
2106 amount of gas transported from West Virginia to Pennsylvania, Ohio and Indiana—Is that correct?

A. Certainly. Nature is doing that for you now. There is only so much gas available, and it is becoming less each year.

Q. That is bound to happen as a natural consequence, regardless of legislation and regardless of acts of Public Service Commissions and public utilities?

A. And natural law entirely beyond the control of legislative action or human will.

Q. That is in accordance with your idea that natural gas is not capable of regeneration?

A. It is.

Q. It is recognized, I believe, that natural gas is exhaustible and being exhausted, and it has been exhausted for a few years past.

A. It is gone forever. The only thing that will supplement the supply is to find a new field to take the place of the one that is depleted.

Q. And you don't know where those new fields are in West Virginia, Pennsylvania, Ohio, Indiana or Kentucky, do you?

A. Nothing of sufficient magnitude to cope with the situa-
2107 tion now known to exist and known to continue for the next few years.

Q. Then the fact is, that you accept the theory that probably 75 per cent of the originally available West Virginia natural gas has already gone?

A. Yes, sir. Of course, there is one feature to this that will help prolong it, and that is, as you curtail waste in production and transmission, you will make more gas available, and that to be brought about will require the installation of measuring appliances to measure the gas into the lines and then out of the lines where it goes to the various distributing plants.

Q. I think we have an idea of that. But I want to direct your attention to your Exhibits Nos. 41, 42, 43, 44, and 45. Your number 41 is a map showing the volume of natural gas and per cent of State's total production exported from West Virginia. Where did you get the figures upon which that diagram is based?

A. Figures of the United States Geological Survey, and of course the term "production" as used in all Geological Survey statistics, does not mean the amount of gas coming out of the ground, but the amount of gas sold. The amount of gas coming out would always be very much greater by an amount equal to the loss
2108 between the gas sand and the meter measuring the gas to the ultimate consumer. I am using the term "production" on all of these diagrams in the sense that the word is used in all government statistics, but it must always be used in that sense, and not in the sense that it means volume out of the ground.

Q. Referring to Exhibit 41, you have taken, in the sense you have explained, the total of West Virginia gas exported to other states?

A. Yes, sir.

Q. From the reports of the United States Geological Survey?

A. Correct. Because those are the only data that are available. Of course, what we ought to have are gas measuring data back in the field, showing the amount of gas out of the well; but in the absence of that, I have used what was next best, and the only thing that is available.

Q. All right. Where did you get your data of the total production of gas in relation to which you found the percentage of the exported gas?

A. United States Geological Survey.

Q. What elements entered into the total gas production as you found it in the geological reports—what classes of gas?

A. All gas, where there is any definite basis of measure-
2109 ment or estimate.

Q. That included field gas?

A. Yes, sir.

Q. You mean by field gas the gas used by the gas companies themselves?

A. Yes, sir.

Q. And by drilling contractors in working the field, in drilling wells?

A. Yes, sir.

Q. That entered into the total gas production of West Virginia?

A. Yes, sir.

Q. How about the gas consumed by carbon black plants? Was that included?

A. Yes, sir.

Q. How about the gas lost by leakage in transportation? Was that included?

A. Not.

Q. How?

A. Not. That is what I tried to get clear before, that this represents gas delivered to the consumer. That is the sense in which the word "production" is always used by the United States Geological Survey, and does not include the enormous loss existing be-
2110 tween the point of delivery and the well where it is produced.

Q. Anyway, in getting at the total production, you include field gas and gas sold to consumers, either in this state or to other companies at the state line?

A. Certainly. That is the aggregate or total production.

Q. Then the gas delivered at the state line to other companies for transmission to other states is the amount of export?

A. Correct.

Q. And the rest is division?

A. Yes, sir.

Q. In reaching the percentage?

A. Correct; merely a matter of computing per cent with those two fundamental data available; that is, the total production and the amount exported, then finding what per cent that amount exported is of the total.

Q. Has any calculation been made, to your knowledge, as to the proportion of natural gas production used in field operations for drilling wells and other like operations by the gas companies and their contractors?

A. Yes; but I can't give you the figures from memory?

Q. Can you approximate them?

A. I can't give you the field alone. (Referring to note-
2111 book.) I have an estimate here of field and main line, and that at the time of this publication represented seven per cent of the total production.

Q. Seven per cent was the field operation?

A. At that time.

Q. That was 1917?

A. Correct.

Q. And does that represent a fair average which might be taken for previous and subsequent years?

A. It would not be very far from that, although I think we can safely count that as far as volume is concerned, that will be materially decreased in the future.

Q. In that seven per cent is the gas for operation of gas compressors included?

A. Yes.

Q. How about the free gas to lessors under the leases?

A. It was.

Q. That is also included?

A. Yes; and includes where they happen to have a special right of way contract, and there was free gas to a man who doesn't have a well but has a main line or lateral line crossing his farm.

(Pennsylvania Exhibit No. 42 shown witness.)

Q. Will you look at your diagram, Exhibit No. 42, "Billion
2112 Cubic Feet of Natural Gas Consumed per Million Population in West Virginia, Ohio and Pennsylvania." As I understand, that diagram was gotten up in this way: You took the total gas consumed in each of the three states, and divided it in each instance by the population in millions of the state affected, and the result was the figures contained on this diagram, Exhibit No. 42?

A. Correct.

Q. I wish you would give us the figures in respect to each of the three states, upon which you have based this diagram, including for each year covered the population in millions, the billions of cubic gas consumed, and the billions of cubic feet of gas per million population, as you have figured the same?

A. The data you ask for are as follows:

2113

West Virginia.

Year.	Population in millions.	Billion cu. ft. gas consumed.	Billion cu. ft. gas per million population.
1900	.95	....	..
1906	1.11*	58.4	52
1910	1.22	77.0	63
1911	1.25	80.8	64
1912	1.27	95.4	75
1913	1.30	96.6	74
1914	1.33	95.1	71
1915	1.35	94.9	70
1916	1.38	105.1	76
1917	1.41	115.4	81
1918	1.44*	108.6	75

Ohio.

1900	4.15	....	..
1906	4.46*	74.8	17
1910	4.77	108.0	22
1911	4.84	112.1	23
1912	4.90	126.8	26
1913	4.96	128.2	26
1914	4.02	138.3	27
1915	5.08	146.7	29
1916	5.15	169.4	32
1917	5.21	165.7	32
1918	5.27	143.	27

*The population data for 1906 were interpolated from the Survey's figures, and for 1918 the increase was estimated the same as the average increase for the preceding year.

2114 Pennsylvania.

Year.	Population in millions.	Billion cu. ft. gas consumed.	Billion cu. ft. gas per million population.
1900	6.30	....	..
1906	7.13*	162.0	22
1910	7.69	168.8	22
1911	7.83	154.4	20
1912	7.96	173.6	22
1913	8.10	177.4	22
1914	8.24	164.8	20
1915	8.38	176.3	21
1916	8.52	201.4	23
1917	8.66	202.2	23
1918	8.80	177.1	20

Q. Now, in making that computation, you have charged against the population of each of the three states, not only domestic and industrial gas, but also field gas and any other classes of consumption?

A. All gas used within the state, as shown by the United

2115 States Geological Survey figures.

Q. Did you arrive at any computation as to the population of West Virginia, Ohio and Pennsylvania actually consuming natural gas for each of the years affected?

A. I can furnish you that information. It would be on a basis of five for each domestic consumer shown by the Geological Survey records.

Q. Well, Mr. Anderson gave us a statement to the effect that there were approximately 130,000 consumers in West Virginia, which multiplied by five would make 650,000 population dependent, as he says, on natural gas. In the same way, he gave us a population dependent upon natural gas in Pennsylvania, of approximately 2,000,000 people. For Ohio he did not give us the figures.

A. I have all the figures before me. If you want them in the record, I can give them to you.

Q. You have available figures for 1917 showing the number of consumers in Pennsylvania, Ohio and West Virginia?

A. Correct.

Q. But not for 1918?

A. I can give them to you if you want them.

Q. Well, what are your figures for 1917 for the three

2116 states? I simply want the number of consumers.

A. In Ohio, 872,000; Pennsylvania, 480,500; West Virginia, 129,297.

Q. And in order to get the actual gas consuming population, you

* The population data for 1906 were interpolated from the Survey's figures, and for 1918 the increase was estimated the same as the average increase for the preceding year.

would multiply those figures by five, the average number of members in a family?

A. Yes, sir.

Q. Now, I take it that your diagram, Pennsylvania Exhibit 43, being "Natural Gas Consumed Annually per Domestic Consumer in West Virginia, Ohio and Pennsylvania," has been drawn up by taking the total gas consumption of each of the three states——

A. And dividing by the number of domestic consumers for the respective years.

Q. And that gas consumption which you divided by the number of domestic consumers was the gas consumption for all purposes in the three states, respectively?

A. Well, there were three comparisons made——

Q. I am speaking about Exhibit No. 43.

A. Correct.

Q. You took domestic, industrial and field gas and all and divided it by the number of domestic consumers?

A. Yes, sir.

2117 Q. Now, on your Exhibit No. 44, "Industrial Natural Gas Consumed Annually per Domestic Consumer, in West Virginia, Ohio and Pennsylvania," you took the total amount of gas consumed for industrial purposes in each of the three states, respectively?

A. Correct.

Q. As to each state, dividing the amount of industrial consumption by the number of domestic consumers?

A. Correct.

Q. That I suppose was intended to show how much gas each domestic consumer would have had if there had been no industrial gas consumed?

A. No, not at all. One of your complaints is that West Virginia has been discriminated against; that is, that you have not had your fair share of gas. Exhibits 42, 43, 44 and 45 were prepared to show that on any one of four definite bases of comparison, West Virginia has always had more gas—has had more gas for use within the state than either the States of Pennsylvania or Ohio. There is a certain relationship, as far as communities as a whole are concerned, between industrial gas and a number of domestic consumers,—not very accurate, it is true, but for a given industrial center, a certain number of domestic consumers in that center, working in industries,

2118 would be working in industries that would require a certain amount of gas, and the four exhibits in question merely show that, contrary to all of your statements, the facts are that West Virginia has always had more gas, on any one of the four bases of comparison, than either Pennsylvania or Ohio.

Q. You are talking now about relative amounts or absolute amounts of gas?

A. Why, absolute amounts of gas for different purposes—that is, the amount of gas available for domestic consumption, and the amount of gas available for industrial consumption.

Q. What do you mean by that?

A. In the sense in which the Geological Survey uses the term "industrial," it means practically all uses other than domestic.

Q. What you are getting at is this: If West Virginia had used this industrial gas for domestic purposes, which it was free to do, it would have had more domestic gas than anybody else. Is that it?

A. That would have been a conclusion from that situation, but that is not what I meant to convey. What I meant to convey was to give a complete answer to the claim made by the State of
2119 West Virginia that they have not had their fair share of the distribution of this resource, and the four exhibits in question were prepared to show that, contrary to all statements made by the State of West Virginia in their complaint regarding this unfair distribution, the facts are squarely against the allegations and show conclusively that more gas has been available either per domestic consumer, or industrial gas per domestic consumer, or per million population, or total gas per domestic consumer.

Q. All right. Now you come right back to my proposition that you are talking about proportions and comparisons and not absolute amounts of gas.

A. The number of consumers is, of course, different in the different states. Very obviously a state with a large number of domestic consumers will use, all other things being equal, a larger total volume of gas than a state with a much smaller number of domestic consumers.

Q. Then the fact is that during all of the years covered by these diagrams, in fact, more gas,—more West Virginia gas—had gone out of the state and been consumed out of the state than was consumed in the state. Now, isn't that a fact?

2120 A. Yes, sir.

Q. Is that——

A. As shown on Exhibit 41, which shows the per cent of the state's total production that was exported.

Q. So that all these totals are based upon a comparison of relative amounts?

A. Yes, sir; as to what each state would be entitled to in a rational administration of a limited national resource.

Q. Without discussing that with you, on this diagram, Exhibit No. 44, what gas was included in industrial gas as a basis of that exhibit?

A. All gas other than domestic, as I stated in answer to a preceding question. That is the basis universally used by the Geographical Survey.

Q. That included not only gas used in manufacturing but field gas, in the sense in which you have designated it?

A. Yes; providing the field gas was not used for domestic purposes. There are two classes of field gas service,—an industrial use and a domestic use. For instance, a farmhouse using gas in the field would be a domestic use. A steam boiler at a well drilling using gas in the field would be an industrial use.

Q. How have you separated that?

2121 A. The Geological Survey keep those features separate as closely as they can with the limited data available.

Q. Anyway, you have included in the industrial natural gas, in Exhibit No. 44, that field gas which was used for drilling wells and operating compressors?

A. Yes, sir.

Q. And operations of that kind?

A. Yes, sir.

Q. And cleaning out wells?

A. Yes, sir.

Q. Now, on your Exhibit No. 45, "Domestic Natural Gas Consumed Annually per Domestic Consumer in West Virginia, Ohio and Pennsylvania." That was arrived at by dividing the amount of domestic consumption by the number of domestic consumers?

A. Correct.

Q. I believe you undertook to explain the figures—the excessive figures—of West Virginia domestic consumption, upon the theory that there was a great deal of waste in West Virginia domestic consumption. Is that right?

A. That is true.

Q. And your idea of the waste in domestic consumption in West Virginia was that it is caused by an insufficient price for domestic gas. Is that right?

2122 A. Correct.

Q. Your idea in making this diagram, and at the present time, is that if the price is increased, that waste will be eliminated?

A. It will be curtailed. Ultimately the waste by the domestic consumer, as the price in West Virginia will go up, will come down to the same level as it is in Ohio.

Q. Is there any waste of gas in Ohio and Pennsylvania?

A. There has been a very great waste of gas in all gas-using states.

Q. Is there any waste going on at the present time in Pennsylvania and Ohio?

A. There is a very great waste.

Q. Waste in domestic consumption?

A. There is.

Q. Are you one of the gentlemen who has calculated it mathematically that in all domestic consumption there is a waste of something like 80 per cent?

A. I am.

Q. And your cure for that is to raise prices?

A. So that the consumer will put in efficient appliances and use the gas correctly.

Q. Is that true in Pennsylvania and Ohio as well as in West Virginia?

2123 A. It is. It is true in all natural gas using states where the prices are low. For instance, it would not be true in Kansas City, Missouri, at the present time.

Q. That is going a little bit out of our bailiwick.

A. For the reason that the price for the first thousand feet in Kansas City, Missouri, is $1.30.

Q. For natural gas?

A. Yes, sir.

Q. That is your idea of what it ought to be?

A. No, I don't say it ought to be $1.30 for the first thousand feet in Ohio, or Pennsylvania, or West Virginia. It ought to be much higher than it is, and ultimately will have to go up to a figure in that neighborhood.

Q. To $1.30?

A. Yes, sir; that is, the equivalent of that. The price of gas is 50 cents per thousand in Kansas City, Missouri, and added to that there is a readiness-to-serve charge, which, of course, does not include any gas at all, of 50 cents, making the first thousand feet cost $1.30.

Q. While we are talking about this question of waste—Is there any other waste in West Virginia, Pennsylvania and Ohio, except waste by domestic consumers?

A. Very large waste in transmission of the gas along the main lines.

2124 Q. Whose waste is that, the gas companies' or the consumers'?

A. The gas companies'. And invariably the gas companies have fought very bitterly the program that would have resulted in the installation of measuring devices in the field—not at individual wells, but at groups of wells—so as to give a definite basis of measurement where the gas is delivered into the lines, and then install measuring devices again, where the gas is taken out of those lines. At the present time, answering your question fully, the loss, on an average, in the United States, between the well in the field and the ultimate consumer's meter is somewhere between 30 and 35 pr cent of the gas that starts out for transmission. A very large part of that could be eliminated by careful attention to main line conditions. To give you a concrete illustration, one large company in Ohio that fought against the installation of measuring devices for four years and finally gave in, put in a complete measuring system for measuring gas from the field into the lines, and out at the various distributing plants, found that in the first year the unaccounted for gas was 43 per cent—that is, the loss between the well and the ultimate consumer was 43 per cent. In three years' time that same com-

2125 pany has cut down that loss from 43 per cent to 13 per cent, by means of the measuring data which has given them—which first gave them the magnitude of the loss, and secondly, showed them in which part of the system the losses were located. The general uses of measuring devices are fundamental and necessary, if you want to get efficient transmission conditions in the field.

Q. What other waste is there on the part of the gas company besides the loss in transmission such as you have described?

A. There is enormous waste in the field in connection with well drilling operations: first, in the use of high-pressure gas under boilers—that is, in using gas under pressures so high that the gas is not properly mixed under the boiler, and using very much more gas than is necessary; secondly, there is a great deal of gas lost when wells are brought in, in not having proper casing or tubing equipment, including the packer and gate valves, available to immediately

shut off the supply as soon as the hole has been completed. The most fortunate thing that could happen, not only to the State of West Virginia, but to all of the natural gas states, would be—if your state would immediately get back behind all of the recom-
2126 mendations for field operations made by the National Committee for Natural Gas Conservation—getting behind those recommendations and seeing that they are carried out would add very materially to the time that you will have natural gas in West Virginia.

Q. Where else is there waste in the field?

A. Well, there is a great deal of gas wasted in improper casing. There is a great deal of gas wasted in allowing it to blow in the air from oil wells.

Q. In blowing off drips?

A. Yes, sir. That of course is the only reason why all drips should be trapped, and why, in all places where it is expedient, drying plants should be installed, so as to remove the gasoline vapor in the field, before the gas is put into the main transmission lines.

Q. Those are all operations of the gas producing companies themselves?

A. Yes, sir.

Q. Where were these industries in West Virginia, where you found gas being consumed for industrial purposes with inefficient appliances, and what were the particular industries?

A. Do you want them all? At Follansbee Bros. Company's tin plant, Follansbee, West Virginia. The gas is used——

2127 Q. I am simply asking you the names. If you are going into details, we are going to branch off into something—Give us the names and dates, if you have them.

A. The Jefferson Glass Company, Follansbee, West Virginia——

Q. Have you the dates at the same time?

A. These were all in August.

Q. 1920?

A. Yes, sir.

Crescent Glass Company, Wellsburg, West Virginia; Eagle Manufacturing Company, Wellsburg, West Virginia; Boch & Metsch, Plant No. 2, Newell; Homer Laughlin China Company, Newell; Kenilworth Tile Company, Newell; Edwin N. Knowles China Company, Plant No. 1, Chester; Edwin N. Knowles China Company, Plant No. 2, Newell; Specialty Porcelain Works, Newell; Taylor, Smith & Taylor Company, Chester; United Zinc Smeltering Corporation, Moundsville; Fostoria Glass Company, Moundsville; United States Stamping Company, Moundsville; Phelps Can Company, Weirton—They have an installation where the gas is used under especially favorable combustion conditions, having found the best conditions in this plant of any inspected in West Virginia. They have done all that can be done to bring about efficient and correct use of natural gas. Weirton Steel Company, Weirton;
2128 Chelsea China Company, New Cumberland; New Cumberland Glass Company, New Cumberland; Erskine Glass Manufacturing Company, Wellsburg; Hazel-Atlas Glass Company,

Wheeling; La Belle Iron Company, Wheeling; H. Northwood Company, Wheeling; Standard Parts Company, Wheeling; Warwood China Company, Wheeling; Warwood Tool Company, Wheeling; Wheeling Steel Casting Company, Warwood; Wheeling Steel & Iron Company, Benwood; Wheeling Tile Company, Wheeling; Bowers Pottery Company, Mannington; Marion Window Glass Company, Mannington—This industrial consumer making window glass has installed additional air-cooling equipment, and is operating during the summer months, in order to keep the plant closed down during the peak load period in winter time, when the gas service would be unsatisfactory. He has found that by using this air-cooling equipment, he can get the same output from his plant and labor in July that he could formerly get with the ordinary air equipment in winter. Colfax Brick Company, Colfax; Owens Bottle Machine Company, Fairmont; Hammond Fire Brick Company, Grafton; Thornton Fire Brick Company, Thornton; Tygart Valley Glass Company, Grafton; Royal Window Glass Company, Grafton;
Carr China Company, Grafton; Hazel-Atlas Company,
2129 Grafton; Seneca Glass Company, Plant "A", Morgantown;
Seneca Glass Company, Plant "B", Morgantown; United States Window Glass Company, Plant No. 1, Morgantown; Athens Glass Company, Morgantown; Beaumont Company, Seneca Plant, Morgantown; Beaumont Company, No. 2 Plant, Morgantown; Economy Tumbler Company, Morgantown; Star Glass Company, Star City; Weston Glass Company, Weston; Penn Window Glass Company, Pennsboro; Premier Window Glass Company, Pennsboro; Racoon—the Salem Co-operative Window Glass Company, at Salem. This plant was shut down at the time I was there, but there was no provision for either checking combustion products or properly mixing gas.—The Modern Window Glass Company, Salem.

Q. Is that the end of the list?

A. Yes, sir. There are a few more whose names I have misplaced—probably half a dozen more that I haven't read.

Q. Now, as I understand, the trouble in all these plants, except the Phelps Can Company, was that either no mixers or inefficient mixers were employed?

A. Yes, and no check on the combustion products, so there was no way of telling whether they had burned the gas or not. In other words, they had the old impractical gas users, with the mistaken
idea that as long as you do not get visible smoke from the
2130 stack furnace, you have perfect combustion, not appreciating
the fact that you can burn gas only half way to carbon monoxide and make an absolutely smokeless flame, and yet waste a large amount of fuel by so doing.

Q. All right. One more point: How many plants have you inspected in Pennsylvania and Ohio?

A. None.

Q. Are you prepared to say, as a matter of fact, that the conditions which you say you found in the West Virginia industrial plants you have named are not duplicated in industrial consumption in Pennsylvania, Ohio and Indiana?

A. As far as glass plants and pottery plants are concerned, my own observation in all of the gas using states is that you would find substantially the same wasteful conditions. In other words, the wasteful condition is not a matter of state lines, but is a plain, unvarnished economic crime that has been going on, and been going on so long, that it has become the almost universal custom of those two groups of gas users. As far as the steel plants are concerned, you would usually find more careful use in a steel plant than you will in the pottery and glass plants.

Q. And yet that use in the steel plants is one which could
2131 easily be replaced by other fuel?

A. Yes. On the same basis, of course, practically all of these others. You can use other fuel in every plant in West Virginia. The reason they are not being used is because natural gas is cheaper and more convenient.

Q. And so in Pennsylvania?

A. Yes, sir.

Q. And Ohio?

A. Yes, sir.

Mr. Price: I should like to ask one question of the witness.

Mr. Price:

Q. Mr. Wyer, you have said considerable concerning the waste on the part of consumers and on the part of gas companies, and I want to ask you this: Whether or not you consider that waste to have been a wilful waste, or a waste growing out of the lack of appreciation of what might be accomplished by the use of more modern and more practical equipment?

A. I think in all cases it is a matter of ignorance.

Q. Ignorance, and not a wilful waste?

A. No.

A recess was here taken until 1:30 o'clock, P. M.

2132 Wednesday Afternoon Session.

And now, the hour of 1:30 o'clock having arrived, parties met, pursuant to adjournment.

SAMUEL S. WYER resumed the stand and his cross-examination continued by Mr. Hoffheimer.

Q. You told us something of a visitation to Weston when you observed a certain number of denizens of that community, engaged in the month of May in burning gas with their windows open. When was that?

A. Several years ago; I can't verify the date. It was the same year that the appraisal of the Weston plant was made—probably three or four years ago.

Q. What were they,—dwelling houses?
A. Yes.
Q. Can you locate the houses any more definitely than you have done?
A. No; I was just merely going through the town in order to get an idea of the structural conditions applying to the plant, and observed this.

2133 Q. Was it located in any one district?
A. No, as I recall they were located over the town.
Q. What was the gas being burned for,—heating purposes?
A. Heating rooms or non-used cooking stoves.
Q. What was the temperature outside?
A. Well, it — warm enough so that the doors and windows were open. I can't give the temperature.
Q. Who was furnishing the gas supply at Weston at that time?
A. Keener Oil and Gas Company, I believe was the name of the company.
Q. Did you report that condition to any one connected with the Keener Oil and Gas Company?
A. I mentioned it to their local superintendent.
Q. Who was he?
A. I don't recall his name now.
Q. When did you make that observation?
A. I can't give you the exact year from memory, but it was the same year the appraisal of the plant was made. The date of that appraisal would fix the day, because it was the May of that year.

2134 Q. When did you make that trip to Cumberland, when you observed the outside street lights burning?
A. August of this year.
Q. Where did you observe that?
A. I drove through New Cumberland, West Virginia, on the Panhandle.
Q. I want to find the location of those lights you saw burning.
A. The lights were the street lights in New Cumberland, West Virginia.
Q. What time of day was it?
A. About noon.
Q. Were they Welsbach burners?
A. Well, they were incandescent mantles; I couldn't tell whether they were Welsbach or not.
Q. They were mantles of that type?
A. Yes, they were mantles of that type.
Q. Who was furnishing the gas supply at that time?
A. Manufacturers Light and Heat.
Q. Did you complain of that fact to the Manufacturers Light and Heat Company?
A. I did.

2135 Q. You had something to say about the molecular constitution of natural gas and its character as a seething mass. Is that inherent only in natural gas?

A. It is not. That is true of all gas. It was merely stated to give an idea of gas pressure or flow.

Q. Do you mean to imply that gas or natural gas is the only matter made up of molecules?

A. No, sir.

Q. Or that gas was the only matter in which the molecules were in constant motion?

A. Gas is the only fluid in which the molecules are in constant motion, using the term "gas" in its generic sense, without regard to whether it is natural gas or a single element.

Q. Isn't it a fact that the modern theory is that all matter is made up of molecules and that the molecules are in motion?

A. Relatively that is true; but if you were to put into this record Einstein's modern theory of relativity, you would get a very clear expression of your idea. But since it is a matter of relativity, the range of motion is so much greater in gases than it is in the so-called solids, as to put the gases in a class by themselves.

Q. When you referred to gas as being never at rest and
2136 being constantly in motion, you had in mind that molecular motion.

A. Certainly.

Q. Which applies as well to all gases?

A. It applies as well to all gases and is the basic reason for gas pressure and gas flow.

Q. Did I correctly understand you to say that if you had a given quantity of gas passing through a pipe line and part of that gas was required to be diverted to use in West Virginia, it would effect not only the volume but also the pressure of the gas going into Pennsylvania, using that as an illustrative destination?

A. Yes, sir, assuming that the volume diverted was of enough magnitude to be perceptible.

Q. You could very easily reverse that statement and say that if you had a given volume of gas going through a pipe line and a perceptible quantity of it were set apart or destined for transportation to another state, it would affect not only the volume but the pressure of the gas supply in West Virginia from that same pipe line?

A. Certainly; you cannot remove natural gas from a transmission line without disturbing the pressure conditions in the entire
2137 line, assuming, of course, that the amount removed is a substantial amount.

Q. You had something to say about carbon black plants, which, as I gathered it from your testimony in chief, you regard as an unmitigated evil and waste of gas; is that right?

A. Generally, yes, because they are practically all located where that gas could be used for industries and where they could make a much better use out of the gas. I do not mean to take the position that there are not some places in the gas fields in the United States where it may be justified to burn natural gas for the purpose of making carbon black. Those places, however, would have to be located so that it would be out of the question to carry the gas to normal markets.

Q. Is not this the fact: That in some places in West Virginia where carbon black is produced, those plants are so located that the gas companies, because of lack of transportation facilities, or because of lack of pressure, are not able to make the gas available for use elsewhere?

A. That is true, under present conditions.

2138 Q. Is it also true that there is a difference in opinion between you and some other people who have made a study of gas conditions as to the economic wastefulness of the carbon black industry?

A. That is true, there is such difference of opinion.

Q. Speaking of the carbon black industry, other engineers maintain that it is an economical and proper use of gas?

A. Yes, but in view of the fact that over seventy per cent of the gas is wasted, I think the preponderance of the evidence is on my side, rather than on the side of the fellow using two or three per cent of the gas that he has available for the manufacture of carbon black.

Q. Does carbon black supply a useful element in industries in this country?

A. Certainly; it is used in printers' ink, paints, and rubber industries.

Q. Hasn't it been estimated that carbon black causes a great saving and is of great advantage in the durability of rubber tires and articles of that character?

2139 A. It is not a matter of saving; it is used as a filler because carbon black is cheaper than rubber. Practically all the black tires you see have had carbon black mixed in to increase the volume. Zinc oxide can be used for the same purpose.

Q. At any rate, its use runs into millions of dollars a year?

A. No, I wouldn't say its use runs into millions of dollars a year.

Q. Would you say eight million dollars a year, as has been estimated?

A. The entire carbon black output wouldn't run into so many million dollars a year.

Q. I am talking about the saving in the rubber industry?

A. I think those statements of savings were made, probably, by the same attorney who, if I remember correctly, appeared before the conservation committee and spoke about natural gas containing carbohydrates and protein.

Q. As a matter of fact, in West Virginia there has been, within the last year or two, a very considerable abandonment of carbon black manufacture in favor of the use of gas for ordinary consumption?

2140 A. Yes, and as time goes on that will increase. The only reason that these people that have these wells are making carbon black is that under the best marketing conditions for natural gas, they could make more money out of the carbon black than they could by going into the public utility business, and that is why I have repeatedly made the statement that no legislation is necessary to wipe out the carbon black industry in West Virginia,

insofar as it is competitive to public utilities. The public utility commissions in West Virginia, Ohio and Pennsylvania have every power now to wipe out every plant that is competitive and all they need to do is raise the price of gas, and assuming that the carbon black plant owner will make more money by selling his gas as a public utility, the carbon black plant will be shut down.

Q. Was there ever a carbon black plant in Pennsylvania?

A. There have been.

Q. Is there to-day?

A. I can't answer that.

Q. You had something to say about large quantities of
2141 residuum gas left in the ground in West Virginia. Would that statement apply equally to Pennsylvania and Ohio?

A. It applies, but with lesser degree. The rock pressures in Ohio and Pennsylvania have been lower and the relative amount of gas left in has been less and the relative amount that could be developed by continued operation under low pressure conditions is less in Ohio than it would be in West Virginia.

Q. Why?

A. Because of the difference in rock pressure conditions. As an average, the rock pressure conditions in West Virginia are higher than they are in Pennsylvania or Ohio.

Q. Are, at the present time, or were at the beginning?

A. Were at the beginning. Wells that are abandoned in West Virginia usually have a higher rock pressure than those that are abandoned in Ohio.

Q. So you charge that to the difference in rock pressure?

A. Well, the difference in residual gas is brought about merely by the fact that you start out with the hundred per cent of gas that is in the ground. If you go down more nearly to atmospheric pressure in one case than in another, in the case you go down
2142 closer to atmospheric pressure, you take out the most gas and leave the least in as residue gas, and the general practice in West Virginia has been due solely to low price conditions and wells were abandoned at a lower level than in Pennsylvania and Ohio; but in most cases, there has been an enormous amount of gas wasted by pulling wells. That would not have been the case had there been a higher price asked for the gas.

Q. And it is due to what you have told me, in explanation of this residue of gas, that the prices in Ohio and Pennsylvania are, and always have been, higher than in West Virginia?

A. Generally speaking, yes, for the last ten or twelve or probably fifteen years.

Q. That is true of industrial consumption as well as domestic consumption of natural gas?

A. Yes, for that same period of time.

Q. Tell me this: If the leaving of this residue gas in the ground has been due to low prices, has it been low prices in West Virginia or low prices in Pennsylvania and Ohio?

A. The three combined. Low prices in Pennsylvania and Ohio have made low prices in West Virginia. In other words, the utility

commissions of Ohio and Pennsylvania could, if they faced
2143 the economic facts fairly and squarely, enable the Ohio and Pennsylvania companies to outbid, in the matter of marketing, the West Virginia companies.

Q. But I gathered from your direct examination yesterday, that you were charging the leaving of residue gas in the ground in West Virginia to low prices in West Virginia?

A. Low prices have prevailed in West Virginia and as a result of that low price situation, there has been a great deal of residue gas left in the ground. Had higher prices prevailed, the wells would have been operated for a longer period of time. For instance, the best illustration you can have of that is Pennsylvania crude oil. The quality of that has always been superior to other oil. There has been invariably a differential in price in favor of Pennsylvania crude oil. As a result, there are many oil wells in Pennsylvania that have been operated for twenty-five or thirty years, merely taking oil out at the bucketful, because at the market price, it has been good business to do so. Had the same principle been followed in West Virginia, with regard to West Virginia natural gas, it being superior to any other natural gas in the United States in heating value and quality, and had that quality been
2144 recognized and price levels been higher, the wells would have been operated for a much longer period of time and very much more gas would have been removed.

Q. What I want to direct your mind to is this: If the price is low in West Virginia and the prices were higher in Pennsylvania and Ohio, then when the principal companies with which we are concerned in this present discussion were engaged in the business of transporting gas out of West Virginia into Pennsylvania and Ohio, why didn't they take that gas out of the higher priced states?

A. Because the relative difference was very small. While the prices in Pennsylvania and Ohio have been higher than in West Virginia, they have been so very little higher that it doesn't make much difference.

Q. Then you are wrong in blaming the low priced gas on West Virginia prices alone?

A. I did not mean to intimate that West Virginia was responsible for fixing the field level prices. The four states that are dependent directly upon West Virginia for natural gas are all jointly responsible for the present economic situation.

Q. If you are going to take your gas out at the lower pressure, so as to leave less of this residue gas, it would be necessary to put
2145 suction pumps on the wells, would it not?

A. Not necessarily suction pumps; it would be necessary to build more small compressing stations back of the larger stations now in use. Personally, I believe that the time will come when there will be developed an individual compressor unit that can be made entirely automatic and placed, in many cases, on each well, actually placing a vacuum on the well and literally sucking the gas out of the gas sand.

Q. Nobody has made that yet?

A. Not yet, but it is an engineering possibility.

Q. At what pressure do you think that gas should be or can be taken out to get this residue gas?

A. No definite statement can be made as to that. It is solely a question of the cost of getting it. If the cost of getting residue gas is more than you can get out of it, it would not be good conservation to go after it. If the cost is less, it would be good business to go after it, and I believe that the time will come, not only in West Virginia, but in other states, when many of the wells will be placed under a vacuum and the gas sucked out of the gas sand. Under those conditions, it will come out slowly but continuously for a rela-
2146 tively long period of time.

Q. You told us something yesterday of the cost to these ultimate domestic consumers in the way of reconstruction of their dwelling houses and buildings when West Virginia gas was diverted from Pennsylvania and Ohio. Does it occur to you that the same relative cost would be incurred by West Virginia consumers in case they get an insufficient gas supply from their own state?

A. That would be true; but the facts are that the West Virginia consumers have always had more gas per domestic consumer than Pennsylvania and Ohio.

Q. The question I asked you was whether in case they have an inadequate service, they would incur a like cost and expense in the matter of reconstruction?

A. Of course, that is true.

Q. That necessity for a reconstruction or conversion, if West Virginia gas were cut off, either from Pennsylvania or Ohio or West Virginia domestic consumers, would manifest itself how—in the buying of new heating appliances?

A. New heating appliances for all of the towns, speaking generally. For the smaller towns, new cooking appliances, new lighting appliances and heating appliances, because in the smaller towns, it will not be feasible to operate manufactured gas plants. In the larger towns, like Columbus, Akron and Cleveland, those
2147 towns would get a manufactured gas, if natural gas were shut off; but for the smaller towns, along the main transmission lines, it would not be feasible to operate a manufactured gas plant in those towns and therefore, they would have to salvage all their gas using equipment.

Q. Take the larger towns. There the cost would be in providing furnaces for burning coal or other fuel and reconstructing their chimneys and flues?

A. Yes, sir.

Q. Anything else?

A. It would vary with different individual instances. There are certain places where it would be necessary to build entire new chimneys, because the present chimneys are not large enough to handle the solid fuel.

Q. Let me ask you this: Are you the same gentleman who has publicly advocated the confining of natural gas consumption for domestic purposes to cooking, lighting and hot water heating, upon

the theory that that consumption is necessary, and the elimination of the heating of houses on the ground that that was a luxury?

A. I have never claimed that the heating of houses should be eliminated in the present condition of the industry. The cooking and hot water heating is of much more importance than the general house heating, but there is still enough gas available to per-
2148 mit those consumers that have efficient gas heating equipment that they could use gas for heating purposes for a long period of time. The thing I have tried to drive home is that the use of all gas in the home should be limited to its use in efficient appliances; that is, no coal burning appliances should be permitted to burn natural gas, because of the gross waste.

Q. It is a fact that you have undertaken to classify domestic consumption and to place in the category of necessities cooking, lighting and hot water heating, and to classify as luxuries the consumption of gas for heating houses?

A. I have never used the term "luxury" in that sense, because under the circumstances, that is relatively a misleading term.

Q. But you have advocated, have you not, in the continued decline of the production of natural gas, that the order of elimination would be the cutting off of natural gas for house heating first?

A. I have recognized that the decline of natural gas was inevitable. I have not advocated that. I have advocated that the order of procedure should be, in cutting off the supply first of industrial
2149 consumers, then secondly, industrial uses for those purposes where natural gas is especially well adapted in the industry; third, all house heating in coal burning appliances, and the next in the order of elimination would be, if the situation became so acute as to require that, all house heating; the cooking, hot water heating and incidental heating would be the last to remain.

Q. That is sure to take place in the course of natural decline and the inevitable exhaustion of natural gas, whether we have legislation or whether we don't have legislation, the only difference being the question of time?

A. Correctly stated. It is not debatable that it is going to happen. The only debatable feature is when. My point is that we can delay that for fifteen or twenty years.

Q. Will it occur then, when we get to the point where we have to cut off the consumption of gas in house heating furnaces or for house heating, that this same conversion and re-construction of houses will take place?

A. Yes, sir, ultimately every natural gas consumer now enjoying natural gas as a luxury will be without gas or will be using an inferior manufactured gas for which he will pay a much higher
2150 price and which will cost him very much more. As to exactly when that will occur will of course vary largely for different communities.

Q. But it is sure to occur, regardless of legislation?

A. It will. The smaller towns will be without gas and the larger towns will be reduced to a high priced manufactured gas.

Q. Well, in your series of gradations of elimination, you finally

get to the point where you have nothing left except gas for cooking, lighting and hot water heating?

A. Yes.

Q. That is the last step?

A. That is the last step and when you reach that you are then in what in the gas man's parlance is known as the manufactured gas basis. That is, you have gotten your volume down and instead of selling 157,000 cubic feet of natural gas in West Virginia, under that service, you will sell about twenty-five or thirty thousand feet of gas per consumer per annum at a very much higher price, but because of the more efficient utilization, at practically the same annual cost to the customer. You will get the condition that
2151 you now have with manufactured gas. For instance, the average consumption of manufactured gas for the entire United States is about 26,000 feet of gas per domestic consumer per annum. The average annual bill for that manufactured gas is in the neighborhood of $31.00. The average annual bill for natural gas with an average consumption of over a hundred thousand feet per domestic consumer per annum is within a dollar of the same amount. It is a peculiar feature, but nevertheless a fact, that always exists, that speaking in averages, the average annual family expenditure for gas service will remain the same whether they are using the low priced natural gas or the high priced manufactured gas. But when you have reached the exact position that you have outlined in your question, if you have an adequate price and if you have satisfactory operating conditions for the same companies, they can then operate for a relatively long period of time, taking out the residue gas in the ground and delay very materially the time when the public must go back to the inferior and higher priced manufactured gas. The point that I hope to drive home is that when you have reached the stage of merely a cooking, hot water heating and incidental heating volume, that you do not necessarily need to dispense with natural gas. If you will have an adequate price
2152 at that time, you can still continue to operate and under those conditions one dollar for natural gas would be only forty per cent as expensive to the ultimate consumer as the current price of manufactured gas.

Q. Or one dollar and thirty cents as in Kansas City?

A. The dollar and thirty cents in Kansas City is for the first thousand feet. The second thousand feet would cost you eighty cents, or the first two thousand feet in Kansas City would cost one a dollar and five cents, which is the average.

Q. I think you are one of the gentlemen who is advocating the so-called "step-up" or rising scale?

A. Yes, sir, I recommended that originally in Kansas in 1912.

Q. Then that is a method of inducing economy in natural gas by increasing prices?

A. Primarily and fundamentally.

Q. That question can be answered yes or no.

A. A yes or no answer would be misleading. I will answer the question, yes, and then explain that the primary object of the sliding

scale upward is not conservation but a more equitable distribution of gas and rendering of service to the different consumers. The sliding scale upward makes the large user pay at least the increased
2153 cost of the service that he is receiving; therefore the primary object is equitable distribution of cost and not conservation per se.

Q. Let's get back to the time when the gas is reduced in the natural course of events to cooking, lighting and hot water heating. When you have reached that stage and time passes, as it will, you are going to have an insufficient amount of gas to take care of cooking, lighting and hot water heating in Ohio, Pennsylvania and West Virginia?

A. Yes, sir.

Q. Then what?

A. Manufactured gas for the larger towns; no gas service for the smaller ones.

Q. Before you get to that point of zero in gas production and consumption, you are going to have an intermediate stage where you have some gas but still not enough to furnish those facilities of cooking, lighting and hot water heating in the gas consuming areas of the three states?

A. Yes, sir.

Q. Then what will you do?

A. The effect in that intervening stage will be that you will make manufactured gas and use natural gas for enriching the manufactured gas, instead of using oil. You will utilize the natural
2154 gas for enriching the manufactured gas, rather than degrading the natural gas by mixing manufactured gas with it.

Q. Does it strike you that it will be a probable course and a sensible one to contract the territory in which natural gas is supplied for those purposes?

A. Ultimately the territory must be contracted. The only debatable feature is when and where.

Q. At what stage will that come?

A. When the gas gets down to practically a cooking basis and there is no longer enough to render adequate service for that, then the public will not tolerate continued interruptions of service for that, and it will be necessary to do one of two things: either contract in territory or put in manufactured gas plants and use natural gas for enriching.

Q. The contraction of territory is one of the measures you already have advocated, is it not?

A. Yes, to a certain extent. However, I have also very strongly recommended the shutting down of at least one manufactured gas plant and using natural gas in lieu of it.

Q. Where was that?

A. In Buffalo.

2155 Q. You have, in your own mind, seen the necessity, where a given gas company had an insufficient supply to take care of its entire territory or all of its consumers, of contracting its territory by shutting off some particular town or locality and so give an

adequate service to the territory left rather than to spread an insufficient gas supply over the full territory and give nobody a sufficient amount?

A. That is my theory.

Q. And you praise the New York Public Service Commission for taking that attitude?

A. Yes, sir; but that time does not come as between any two communities, until both communities are using natural gas on an efficient basis and the more remote community does not get sufficient gas. There is absolutely no justification in shutting off Athens, Ohio, from a line coming out of West Virginia and letting Dayton, Ohio, on. There is no justification in shutting off Alliance, Ohio, and letting Canton, Ohio, in the same county, continue to use gas in a grossly wasteful manner. If all of your communities will put the gas on a conservation basis, use it carefully and eliminate waste, then the time will come when the more remote communities must come off in order to render a safe and adequate service to all. That same doctrine will have to be applied in the matter of ex-
2156 tensions and the courts and public utility commissions will have to appreciate that practical operating condition that for a given community to compel a gas company to take on a lot of outlying additions, that those outlying additions will be in all probability the last straw to break the camel's back and it is better for the consumer in smaller numbers to have an adequate supply than for a larger number of consumers to have an inadequate supply and trouble at all times.

Q. Suppose you reach that Arcadian stage—that ideal existence, where everybody who is using gas and producing it is doing so economically and then it becomes necessary that, because of insufficient gas to supply the whole territory, the area of service must be contracted, is anybody going to suffer any inconvenience or loss?

A. Those that are deprived of gas service at that time will, of course, suffer the same inconvenience and loss as if they were deprived of it tomorrow. It is merely a matter of delay in the time.

Q. How about the gas company which through that result is compelled to abandon some of its lines?

2157 A. It, of course, must salvage its equipment, but if that salvaging must take place within the next two or three years, the financial loss will be very much greater than if they are permitted to operate for the next fifteen or twenty years.

Q. In other words, it is just a question of the length of time over which you spread your depreciation?

A. That expresses it exactly.

Q. Now, in going into the particular evils and public inconveniences which will follow from the enforcement of the West Virginia Statute, which is involved in this litigation, you had it in mind that every person in West Virginia desiring to consume gas either for domestic purposes or industrial purposes, would be entitled to, and would require, all of the natural gas that he desired or all he could burn, as long as there was any natural gas produced in West Virginia?

A. What I had in mind was the inevitable effect of the operation of the statute in question, however reasonably interpreted or considerately enforced,—that you would get at least six distinct conditions: First, that the wells where the natural gas is severed from the soil and brought under control and made ready for marketing, under the universal custom of a leasing contract, where such contractual relationships have always resulted in the gas after
2158 severance from the soil becoming personal property just like any other mineral removed from West Virginia soil, that the first effect would be to destroy that property right; Second, where the gas, after severance is delivered to the lines in West Virginia, where such lines deliver gas to lines in other states, the diversion of gas from those interstate lines in West Virginia would result in the inevitable voiding of contractual relationships and destroy many property rights, because of the inability of such West Virginia interstate lines, on account of such diversion, to meet their contractual obligations at the state lines, where the gas is delivered to lines in the other states; Third, that the gas lines in Maryland, Pennsylvania, Ohio, Indiana and Kentucky, receiving their supply from West Virginia, would have such supply destroyed during critical periods, it would result in the destruction of natural gas service in those states to more than six hundred and fifty towns, more than one million natural gas consumers, representing more than five million people in the states of Maryland, Pennsylvania, Ohio, Indiana and Kentucky: Fourth, That since much of the food and much
2159 of the raw material used in West Virginia is imported from other states, the application of this principle of interstate relationship will produce an acute condition that would relegate the states back to feudal detached principalities where property rights will be insecure and interstate problems subject to legislation of bureaucratic experts: Fifth, By greatly increasing the use of natural gas for industrial purposes in West Virginia, the enforcement of this act will have the immediate effect of increasing the now deplorable wasteful situation and violate every recognized canon of true service and economy; Sixth, The enforcement of the act would place a premium on improvident operation, because the ones that would most directly be benefited are the ones that would in the past not have made provision for the future in the way of carrying reserve acreage or reserve lines or looking after reserve capacity features for the future, but have built only for the immediate present, and the enforcement of the act would require those who have gone into West Virginia on the faith that their property rights would
2160 not be disturbed and have invested large sums, first in the acquisition, and second, in the carrying of large amounts of reserve territory for future operation, to surrender such territory secured originally for interstate purposes solely to intrastate use.

Q. Now, you answered my question so satisfactorily that I want to ask another. In answering the questions on direct exxamination, in regard to the effect of the enforcement of the West Virginia act, with which we are concerned in this case, did you have in mind that under the operation of that statute, every person in West

Virginia who desired to consume natural gas for domestic or industrial purposes, would be entitled to, and would, in fact, demand and consume all of the natural gas which he desired as long as there was any natural gas produced in the state?

A. The enforcement of the act in question would immediately bring about a condition where, in the immediate future, the demand solely within the state of West Virginia for natural gas would be greater than the available supply, and there would
2161 be no gas left for interstate transportation through the main lines now going out of the state.

(Question read, at the request of Mr. Hoffheimer.)

A. I think that is a complete answer to the question. If you want it stated in other words, it simply means this: the domestic consumers then would represent an insignificant part of the total gas used in West Virginia. The major part of your gas would go to the industries. The industries that are now connected to the various utility lines and those that would be connected, would make such demand, entirely in the State of West Virginia, that no gas would be available for transportation from the state. In brief, the enforcement of the act will paralyze practically every interstate line going out of West Virginia.

Q. The question is, did you, in answering your questions on direct examination, as to the effect of the enforcement of that statute, have in mind any such condition or construction as I outlined in my question?

A. I had, because that represents precisely what would happen.

2162 Q. That is, the conditions which were outlined in my question?

A. Yes, sir; in fact, within two years, in West Virginia, you would have the immediate problem of beginning to curtail on some of the people that came on, because your own supplies for industrial use would not be equal to the demands that would be made and somebody would have to get off within West Virginia.

Q. That is, you would expect every man, whether a domestic or industrial consumer, to ask and receive and be entitled to, under that statute, all of the gas that he desired?

A. He would.

Q. And that is the construction you had in mind in answering the questions?

A. Certainly.

Q. Have you figured or formed any estimate in figures of the amount of increased demand from the Hope Natural Gas Company under this statute for domestic uses or industrial uses and by reason of physical connection of local Gas Companies?

A. The increased demand for domestic gas in West Virginia would be negligible. Practically all of the gas would be used in in-
2163 dustries; that is, the gas that now goes out of the state, if you were to hold that within the state, there would be very little difference in the amount of that that would go to the domestic con-

sumer. You are now using very much above the average per domestic consumer and practically all of the gas that now goes to export would be used by industries within the state.

Q. I know; but I wish you would give me your figures upon which you base the statement that all of the gas taken from West Virginia by the Hope Natural Gas Company would be demanded and consumed by industries within the state, and I am going to ask you as to individual industries and localities.

A. I have made no attempt to allocate particular volumes of gas to any particular community or any particular industry in any community. I am giving you my best idea, based on the industries in West Virginia. The industries in West Virginia have been largely curtailed. Those supplied by the Manufacturers Light and Heat Company for days at a time have been without light and heat. I am sure that the amount of gas that would be sold to the industries that are now connected by service lines to existing distributing plants and the industries that would clamor to get on—because natural gas would be cheaper than any other fuel—that the industries now operating in West Virginia and burning solid fuel or oil would, if connected, absorb the entire production of the state. That is, with a distinct appreciation of the fact that the state's production is on a rapid decline.

2164

Q. How much gas have you figured and in what localities and by what industries have you figured, would be the additional consumption for domestic, for industrial and for physical connection with local utilities on the lines of the reserve gas company after the enforcement of this statute?

A. I have made no computations attempting to allocate any volume of gas to any particular industry or to any particular community. I am basing my opinion solely on my general knowledge of the West Virginia situation. No figures could be produced that would be at all accurate, as far as any individual company is concerned, without a detailed investigation and without knowing the consumer's local situation.

Q. In order to avoid traveling over the entire lines of the larger companies, your statement as to lack of figures and to the effect that you are testifying from opinion applies to all companies?

A. Yes, sir; the intention was that I should go to every industry using gas in West Virginia, but because of lack of time, I was unable to complete that and I am giving you of the facts as I found them.

2165

Q. My question involved the following companies: The Hope Natural Gas Company, the Reserve Gas Company, The Manufacturers Light and Heat Company, the Pittsburgh and West Virginia Gas Company or the Philadelphia Company, the United Fuel Gas Company, the Carnegie Natural Gas Company, the Eastern Oil Company, the West Virginia Central Gas Company—as to none of them do you have any figures?

A. The investigation was made solely on the Philadelphia Company, the Randall Gas Company, the Manufacturers Light and Heat Company, and on a part of the Hope Natural Gas Company property.

Q. I mean that you have no figures as to added or increased consumption by reason of the enforcement of this statute, by any of these companies?

A. I have not made any attempt to allocate any particular amount of gas to any consumer.

Q. I believe that you eliminated any appreciable added consumption by domestic consumers in case of the enforcement of this
2166 statute?

A. Yes, because generally speaking the domestic consumers in West Virginia have not been short. There are, of course, a number of communities where the shortage has been acute, but that represents a very small part of the total. You would, of course, merely have this: assuming that you were permitted to enforce the statute, you would all have one glorious gas spree for about two years; most of the gas would be gone at the end of that time and then you would be in—as far as the domestic consumers are concerned—practically the same condition as some of the other states are.

Q. Now, will you answer my question, whether you are of the opinion that there would be any increased domestic consumption in West Virginia, by reason of the enforcement of this statute?

A. Not perceptibly. The domestic consumer now is using fifty per cent more gas in West Virginia than the average. Any increase in that group would have a very small effect on the total gas. Domestic consumption as a whole, within the state, is a very small part of the state's total production.

Q. I suppose that in forming an opinion of prophesying
2167 as to the effect of the enforcement of this statute, you have not attempted to give any separate figures with regard to industrial consumption and added consumption by reason of the addition of local utilities?

A. It is impossible to make any accurate figures on that because you don't know where the connections would be made.

Q. It is, however, your idea, regardless of the class of consumption that, to the extent of the increase of every thousand feet of consumption in West Virginia, there would be a corresponding diminution of supply in the other states?

A. If the act in question were enforced, there would be no supply in the other states coming from West Virginia.

Q. Suppose we forget about the act and answer the question in the light of the fact that you have declared it unconstitutional?

A. In the light of administering the natural resources, without regard to state lines, the effect in the very near future, will be that the amount of the natural gas consumed per domestic consumer, by all consumers in all states, would very materially decrease. Furthermore, in the very near future, for the ordinary gross uses of natural gas, for most purposes, would be discontinued and the use of industrial natural gas would be limited to those industrial operations where the quality of natural gas, because of its purity, would be a factor. That would be considered and that limited restricted
2168 industrial use would, of course, also ultimately disappear, but generally, there will be less gas used by each consumer each year on an average, because less gas will be available.

Q. Putting the thing in this way: suppose that for some unknown reason a resident and citizen of Massachusetts moves to Clarksburg, West Virginia, with his family, and by reason of the added population, theoretically assumed to be five, you have one more gas consumer and a matter of consumption of 5,000 cubic feet of gas a month. Would the effect of that added 5,000 cubic feet of consumption be to diminish the supply in Pennsylvania and Ohio and that regardless of this statute?

A. It would not affect the supply in Pennsylvania or Ohio, but it would reduce the amount of gas that could be transported out of the state by the amount that would be used in West Virginia. Your Yankee, however, coming from Massachusetts, if he came from a manufactured gas locality, would bring his manufactured gas stove with him and would not use 5,000 feet a month.

Q. Put it at 1,000 instead of 5,000. There would be in principle and in effect a corresponding diminution and increase?

A. Yes, an increased demand which must, of course, be
2169 met from the local gas supply. I think you misunderstood my former answer. The thing I wanted to drive home was that the consumption per domestic consumer would not be very greatly increased unless there were a very radical reduction in prices from the conditions you have now.

Q. You would expect to cut down the domestic consumption by raising the price?

A. A raise in price will cut it down. The increased price is the only thing that will adequately conserve natural gas.

Mr. Hoffheimer: In connection with the examination of Mr. Harry Wallace of the United Fuel Gas Company, the production of certain contracts was called for. It has been arranged between counsel for the State of West Virginia and Mr. Wallace that these contracts or copies thereof shall be produced, but the copies are not in our hands, so that the formal offer of them in evidence may be deferred until the opening of the defendant's case. This statement is merely made for the purpose of preserving the continuity of the record and as an indication that the request for the production
2170 of these contracts has not been abandoned.

By the Commissioner: Note counsel's statement.

Mr. Weil:

Q. I show you a paper, marked for identification, "Pennsylvania Exhibit 47-Wyer", and I ask you if that is a copy of Ohio Exhibit No. 1, being a map of the main lines of the East Ohio Gas Company, offered in evidence in this case?

A. It is.

Q. Wherein does it differ from the original, Exhibit 1?

A. Merely in the scale. This is on a small scale, so as to permit of the reproduction of the map in smaller space limits.

Q. In all other respects, it is an exact copy?

A. It is.

Q. I now show you a paper marked for identification, "Pennsylvania Exhibit 48-Wyer", and I ask you if that is a copy of the Pennsylvania Exhibit 15, heretofore offered in evidence in this case, as a map of the main lines of the Hope Natural Gas Company and the Reserve Gas Company in West Virginia and the Peoples Natural Gas Company in Pennsylvania?

2171 A. It is.

Q. Wherein does it differ from the original exhibit?

A. Only in the scale. This is reproduced on a smaller scale, so as to permit of the reproduction of the entire map within smaller space limits.

Q. I now show you a paper, marked for identification, "Pennsylvania Exhibit 49-Wyer", and ask you if that is a copy of the map heretofore offered in evidence, being Ohio Fuel Supply Company map and Ohio Exhibit No. 2?

A. It is.

Q. Wherein does that differ from the original exhibit?

A. This is on a smaller scale, so as to permit reproduction of the entire map within smaller space limits.

Q. Does it differ in any other particular?

A. It does not.

Mr. Weil: I offer in evidence Exhibits 47, 48 and 49, so that the same may be subsequently substituted for the original exhibits and found for the convenience of the Court.

2172 Mr. Hoffheimer: All objections to the original maps heretofore stated are reserved as to the copies.

By the Commissioner: Let the exhibits be considered in evidence subject to the statement of counsel.

The hearing now stands adjourned, by consent of counsel for all parties. Counsel for the Commonwealth of Pennsylvania and for the State of Ohio will, if so advised, give notice of at least one day to counsel for the State of West Virginia of the resumption of the hearing on the part of the Commonwealth of Pennsylvania and the State of Ohio as of Tuesday, September 28th, 1920, at 11 o'clock, A. M., at the office of the Philadelphia Company, Pittsburgh, Pennsylvania, at Room 405. In the absence of such notice

2173 by counsel for the Commonwealth of Pennsylvania or the State of Ohio, the case in chief of the complainants will be considered as closed as of October 1st, 1920. All other and further notice of adjourned hearing is waived.

SUPREME COURT OF THE UNITED STATES.

OCTOBER TERM, 1919.

ORIGINAL, #20 & #21.

THE COMMONWEALTH OF PENNSYLVANIA, Complainant,

vs.

THE STATE OF WEST VIRGINIA.

THE STATE OF OHIO, Complainant,

vs.

THE STATE OF WEST VIRGINIA.

Before Levi Cooke, Esq., Commissioner.

Proceedings of December 15-18, 1920.

DEFENDANT'S TESTIMONY.

Afternoon Session, Wednesday, December 15, 1920.

2175 Appearances:

On behalf of the Commonwealth of Pennsylvania, A. Leo Weil, Esq.

On behalf of the State of Ohio, Freeman T. Eagleson, Esq., and R. G. Altizer, Esq.

On behalf of the State of West Virginia, Attorney General E. T. England, Fred O. Blue, Esq., Philip P. Steptoe, Esq., W. S. John, Esq.

Charleston, West Virginia, Wednesday, Dec. 15, 1920.

Pursuant to notice, the Commissioner and counsel met at the court room of the U. S. District Court for the Southern District of West Virginia. And thereupon, pursuant to the order of the Court governing the taking of testimony, the State of West Virginia opened its testimony in chief in defence.

2176 H. E. NEASE, called as a witness, having been first duly sworn, testified as follows:

Direct examination.

(By Mr. Steptoe:)

Q. State your age and place of residence.
A. Charleston, West Virginia. 34 years of age.
Q. What connection, if any, have you at the present time with the Public Service Commission of West Virginia?
A. I am the Chief Statistician of the Public Service Commission of West Virginia.
Q. How long have you occupied that position?
A. Seven years.
Q. Prior to that time, did you have any official connection with any of the executive departments of the State of West Virginia?
A. For 8 years I was connected with the office of the State Tax Commissioner.
Q. That makes a total of 15 years, in which you have been connected with the executive departments of the State of West Virginia, either the Board of Public Works or the Public Service Commission?
A. The office of the State Tax Commissioner and the Public Service Commission.
Q. What were your duties when you were connected with the State Tax Commissioner's office?
A. Well, naturally my duties were somewhat varied.
2177 Q. Well, what connection, if any, did you have with the reports made by the public utilities of the State for tax purposes?
A. I was in charge of that work.
Q. Are all public utilities required to report to the Board of Public Works under the laws of West Virginia?
A. They are.
Q. In connection with the Public Service Commission and as statistician, what services do you perform?
A. I am in charge of the Commission's Department of statistics and accounts, and the work for that department is somewhat varied also.
Q. Well, does your position require you to make reports on any of the public utilities?
A. I am very frequently called on in an official capacity to make investigations in connection with the rates and service of public service corporations.
Q. What does that investigation involve?
A. Well, ordinarily, an investigation of the books and records of the utilities with respect to their financial operations. I have made some investigations that reach to the question of service.
Q. Does that involve the financial history and development of the companies?
A. It does.

2178 Q. Are you connected with, or do you perform any services in connection with rate hearings and other hearings before the Public Service Commission?

A. Yes, I am very frequently, in rate hearings in cases, in making reports to the Commission covering the investigations which I have previously referred to.

Q. Do the reports made by the various public utilities for the Board of Public Works and other reports, required under the law, disclose the counties in which natural gas is produced in West Virginia?

A. They do.

Q. Can you give us a list; that is, simply read into the record the number of gas producing counties in West Virginia, and the names of those counties?

A. I can.

Mr. Weil: Before you proceed with the examination of the witness as to any other facts, we desire to cross-examine the witness as to his qualifications as an expert.

Mr. Steptoe: We agree that counsel may, at this time, cross-examine as he requests, with the understanding, that it shall not be a precedent for future cross-examinations in the course of the direct.

Cross-examination.

(By Mr. Weil:)

Q. Mr. Nease, I believe you stated you were with the Public Service Commission 5 years?

2179 A. Yes, sir.

Q. And with the State Tax Commissioner 8 years?

A. No, I said, I think, I was with the Public Service Commission 7 years, did I not?

Q. I am not sure.

A. I should have said seven.

Q. And that would make 7 years with the Public Service Commission, and 8 years with the Tax Commission?

A. Yes, sir.

Q. And prior to that time, what was your business?

A. Well, I was connected with lumber manufacturing operation immediately prior to that time.

Q. As bookkeeper or what?

A. That was a part of my duties, yes, as bookkeeper and sort of assistant manager.

Q. And prior to that time, what was your business?

A. Well, prior to that time, I was school teacher, I believe—immediately prior.

Q. And your previous experience then was that of school teacher, and in connection with some lumbering enterprise?

A. No, it would not be confined to that. My father was a large retail merchant and I was, in a way, associated with him in that business, all my life up to the time I have related.

Q. Did you—then you had no experience, no practical experience in the oil and gas business?

2180 A. No, not except what I have related.

Q. Your duties, in connection with your employment with the Tax Commission of the State of West Virginia, if I understood you correctly, were to prepare, were to review and look over and to analyze the statements that were filed with the Tax Commission by the different parties who were subject to the tax?

A. That partly was true. I had other duties in addition to those enumerated by you.

Q. What were those duties so far as they were connected with oil or gas companies?

A. Well, all such companies are assessed by the Board of Public Works and throughout the entire 15 years I have sat with the Board of Public Works in an advisory capacity.

Q. Well, the Board of Public Works would take the statements or returns that had been made by these respective companies to the Tax Commissioner or to the Public Service Commission, and it was part of your duty to analyze and to look over and advise with reference to those statements? I assume that that is a fact?

A. Yes, looking to the valuation of the properties.

Q. Yes, sir, that was particularly true, I suppose, with reference to the Tax Commission. The question of the valuations of the respective properties was the principal question before the Tax Commissioner, was it not?

2181 A. I don't think I just understood the purport of that question.

Q. Well, the principal question always before the Tax Commissioner was whether or not the returns made by these respective companies were true and correct returns?

A. As far as the Tax Commissioner was concerned that was his principal duty.

Q. The same is true, is it not, with the Public Service Commission, the returns that are made there or applications that are made there to the Public Service Commission by one or another company, it became your duty to examine whatever facts were set forth?

A. Yes, but further than that, and I might say prior to that, I had charge of the preparation of the forms upon which these tax reports were made by the various utilities, and in the preparation of these forms I naturally had in mind that they should show everything that would relate to the various utilities which would be considered, or should be considered by the Board in arriving at the value of the properties of such utilities.

Q. And the information which you obtained and possess was obtained, was it not, from these reports?

A. Not exclusively. I have used such reports to some extent.

Q. Well, what other source of information did you have?

2182 A. Well, I have used monthly reports that are made to the Public Service Commission by the various utilities for some of the data which I have prepared.

Q. And what other source of information did you have?

A. From personal investigations that I have made of various utilities.

Q. And what were those personal investigations, of what character?

A. They were made in connection with rate cases and were principally of a financial nature, or covering the financial operations and properties of the companies, sometimes, however, extending, as I have said before, to the question of service.

Q. And in those cases you would examine the books of such companies as were under investigation to ascertain their capitalization, their financial condition, and the valuation of their properties as carried upon their books, and of what their properties consisted? That is correct?

A. The books and records and any other information that I might be able to get from any source that I thought was material.

Q. Did you, in connection with your position with the Public Service Commission, make any independent examination or investigation in regard to natural gas companies in the State as a whole, or only with reference to those particular companies about which there was some controversy or question before the Commission?

2183 A. You mean personal investigations?

Q. Yes.

A. No, I have not made any personal investigations of gas companies except those that had rate cases pending. I might qualify that by stating that in cases of appeals from the assessments by the Board of Public Works I have had occasion to make some further investigations.

Q. But any other kind of a question they had pending before the Commission relating to a particular case, that question, I suppose, might be referred to you for investigation.

A. I might state, I have made no investigation of such utilities outside of my official capacity.

Q. Now, this question that has been asked of you with reference to the counties, in which gas is being produced in the State of West Virginia, from what sources would you obtain that information?

A. That could be obtained from, and was obtained from reports made for taxation purposes to the Board of Public Works through the office of the State Tax Commissioner. That would be the primary source, I might say, from which that information would be obtained. I might state, however, Mr. Weil, that I know as a matter of general knowledge, practically all the gas producing counties of the State. I could have, even without referring to those reports, could have made a list which would show every gas producing county of the State of West Virginia.

Q. How do you get that general knowledge?

2184 A. From my close connection with the natural gas industry during my 15 years I have mentioned.

Q. As an advisor of the Tax Commissioner or of the Public Service Commission?

A. Yes, and by outside studies, and you might say, conversations

and in various general ways that a man would naturally acquire such knowledge.

Q. Did anything, in connection with your advisory position, require you to go to these respective counties and districts in which gas was being produced to make any personal investigation upon the ground?

A. No, I don't think so, not as it would relate to the production of natural gas.

Q. You have never been required, have you, to make any general reports on that subject, either to the Tax Commissioner or to the Public Service Commission?

A. On the production of natural gas?

Q. Yes.

A. Oh, yes, I have done that ever since I have been with the Public Service Commission.

Q. I mean throughout the State as a whole?

A. Yes, covered the entire state, I have collected such data.

Q. And where are those reports?

A. They are on file in the office of the Public Service Commission and various other places.

2185 Q. And how were those reports prepared, from what sources did you get your information for those reports?

A. Well, those reports were prepared from the various sources which have been mentioned heretofore, and also from the Geological Survey reports, the United States Geological Survey reports, and probably, from some other sources, primarily I would say, from the reports made to the State Tax Commissioner, and to the Public Service Commission, and from the information gathered from the United States Geological Survey reports.

Mr. Weil: Counsel for Pennsylvania objects to the question last propounded to the witness by the counsel for West Virginia as incompetent, and to the witness as incompetent to testify to the facts sought to be elicited by the question.

The Commissioner: Let the objection be noted and let the witness proceed.

Direct examination.

(Question read.)

A. Barbour, Boone, Braxton, Brooke, Cabell, Calhoun, Clay, Doddridge, Gilmer, Hancock, Harrison, Jackson, Kanawha, Lewis, Lincoln, Logan, Marion, Marshall, Monongalia, Mingo, Ohio, Pleasants, Putnam, Ritchie, Roane, Taylor, Tyler, Upshur, Wetzel, Wirt, Wood and Wayne.

Q. Is there any production in Fayette County, West Virginia.

A. There is a little production in the—close to the edge of Fayette and Nicholas counties, as to which county that production is

2186 in, I am not in a position to state, there is one very small gas company, there is production from one well that I know of.

Q. Are any oil and gas lines leased in that County?

A. There are.
Q. How about Mason County?
A. Mason County has no production, but it also has leased territory.
Q. How about Nicholas County?
A. Nicholas County has no production unless, as I have just explained, in connection with the Fayette County situation.
Q. Are there any lines held under lease for oil and gas purposes?
A. There are.
Q. How about Webster County?
A. Webster County has no production to my knowledge, but there is a great deal of leased territory in Webster County.
Q. How about Raleigh County?
A. Raleigh County has no production, but there is some territory leased.
Q. What about Wirt County?
A. Wirt County has production.
Q. Are there many persons, firms or corporations engaged in the business of producing natural gas in the State of West Virginia?
A. There are a great many.
2187 Q. Are there many that are engaged in serving that natural gas to the public?
A. Yes, quite a good many.
Q. Do all of those who are engaged in producing and serving gas to the public make reports to the Board of Public Works?
A. Those that are engaged, both in producing and serving, would make reports.
Q. In other words, it is those who are serving the public who are required to report to the Board of Public Works, as you have testified?
A. Yes, there might be some few exceptions to that. In case of a producer that was just incidentally furnishing a little public service, of so little importance that the company so producing would not be considered a public utility, or in the public service business, such a producer would not make a return to the Board of Public Works.
Q. Has your office a record of all those utilities who do report?
A. It has.
Q. Have you, at our request, made a list of all the public utilities engaged in furnishing gas to the public in the State of West Virginia?
A. I have prepared such a list.
Q. Now, with the list before you, please tell us how many there are?
A. The list shows 67.
2188 Q. From what data did you make off that report?
A. This was gathered from the records of the Public Service Commission and the Board of Public Works.
Q. I observe on the list No. 44, Ohio Fuel Oil Company. Is that Company generally engaged in the business of supplying gas to the public?
A. It is not.

Q. What does it do?
A. Primarily, it is an oil-producing company.
Q. And about what is the extent of its public service?
A. It has practically no public service, it supplies to a very limited extent, a few field consumers—consumers along its lines in the field.
Q. What about the South Penn Oil Company, No. 57?
A. The South Penn Oil Company, primarily, is an oil-producing company.
Q. And is engaged in public service, incidentally, with reference to a few consumers?
A. Yes.
Q. You have No. 17, Columbian Carbon Company, and No. 37, Monarch Carbon Company, to what extent are those two companies engaged in serving the public?
A. To a very small extent. Their public service business is wholly incidental.
Q. Furnishing to their own employees, practically?
A. Primarily, and a little outside service.

2189 Q. I wish you would now read into the record, the statement you have prepared, showing the number and names of the natural gas utilities operating in the State of West Virginia.

Mr. Weil: That is objected to as incompetent, irrelevant, and immaterial, and particularly objected to because by the testimony of the witness, some of the parties listed are not public utilities.
The Commissioner: Let the matter be placed upon the record and the objection noted.

2190 Answer.—

Statement Showing Natural Gas Utilities Operating within the State of West Virginia December 31, 1919.

1. Aizpuru Oil and Gas Company.
2. Allen, Virgil I.
3. Bailey Gas Company.
4. Berea Heat and Light Company.
5. Bridgeport Natural Gas and Oil Company.
6. Bristol Oil and Gas Company.
7. Buckhannon Fuel Company.
8. Cabot, Godfrey L.
9. Cameron Heat and Light Company, The.
10. Carnegie Natural Gas Company.
11. Cather Gas Company, J. B.
12. Centerville Pipe Line and Gas Company.
13. Charleston-Dunbar Natural Gas Company.
14. City and Suburban Gas Company.
15. Clarksburg Light and Heat Company.
16. Columbia Gas and Electric Company.
17. Columbian Carbon Company.
18. Comet Oil and Gas Company, The.

19. Dickinson, Jno. Q.
20. Empire Petroleum Company.
21. Fay Company.
22. Federal Coal Company.
23. Gassaway Gas Company.
24. Gilmore, B. F.
25. Glenville Natural Gas Company.
26. Harshbarger Oil and Gas Company.
27. Home Petroleum and Natural Gas Company.
28. Hope Natural Gas Company.
29. Huntington Development and Gas Company.
30. Imperial Oil and Gas Products Company.
31. Jane Lew Light and Heat Company.
32. Keener's Oil, Natural Gas and Fuel Company.
33. Light, Fuel and Power Company of West Virginia.
34. Lumberport Gas Company.
35. Manufacturers Gas and Electric Light Company.
36. Manufacturers Light and Heat Company.
37. Monarch Carbon Company.
38. Monongahela Valley Traction Company.
39. Montgomery Gas Company, The.
40. Moore, Herman.
41. Mountain State Gas Company.
42. Natural Gas Company of West Virginia.
43. Northern Natural Gas Company.
44. Ohio Fuel Oil Company.
45. Owens Bottle Machine Company.
46. Pittsburgh and West Virginia Gas Company.

2191 47. Pt. Pleasant Natural Gas Company.

48. Raccoon Gas Company.
49. Randall Gas Company.
50. Reno Gas Company.
51. Reserve Gas Company.
52. Richter Oil Company.
53. Rosedale Fuel and Water Company.
54. Salem Natural Gas Company.
55. Shield's Oil and Gas Company.
56. Shinnston Gas Company.
57. South Penn Oil Company.
58. Southern West Va. Oil & Gas Corporation
59. Travis, G. B.
60. Troy Oil and Gas Company.
61. United Fuel Gas Company.
62. West Union Gas Company.
63. West Va. Central Gas Company.
64. West Va. Heat and Light Company.
65. West Va. and Maryland Gas Company
66. West Va. Traction and Electric Co.
67. Wetzel Natural Gas Company.

2192 Q. You have referred to the reports required of the various public utilities made to the Board of Public Works, let me ask you if these reports are made out by the chief officials of the gas company reporting and under them?

A. They are.

Q. Do they disclose the territory held, location and nature of all of its property, generally, the production of gas, the sales of gas, the purchases of gas, and matters of that sort?

A. They do.

Q. You also refer to another source of information; namely, monthly reports made by the gas utilities to the Public Service Commission. In a general way, what do those monthly reports cover?

A. They cover the production and distribution of natural gas.

Q. Made by each gas utility, severally?

A. Yes.

Q. Do those monthly reports disclose the character of the various consumers, domestic, industrial or out in the field?

Mr. Weil: Just a minute, the previous question in this line of investigation is objected to as incompetent, the reports themselves being the only evidence admissible of their contents. Counsel, however, do not desire to burden the record, but do insist upon this objection unless one of those reports, let it be a blank form, for example, as they are printed reports, is here present, so that we may have the evidence of what is required in those reports. From the only competent evidence that would be admissible as showing
2193 what those reports require; in other words, I do not desire to burden the record with having all of these reports, but just one of the blank forms so that it will show exactly what the reports require.

Mr. Steptoe: In reply to the objection we propose to put the copy in the record, and would have done so sooner if opportunity had been given.

Q. Have you a form of the monthly report just referred to?

A. I have.

Q. Are there more than one of these forms for monthly report?

A. There are two of them.

Mr. Stepton: I wish you would produce a blank of each form and file the forms as West Virginia Exhibit No. 7, and Exhibit No. 8, respectively, monthly reports to the Public Service Commission.

Q. Now, if I understand you, these reports are returned monthly by each of the gas utilities?

A. They are.

Q. Have you, at our request, obtained certified copies of the last annual report of the Hope Natural Gas Company, Reserve Natural Gas Company, Manufacturers Light and Heat Company, Carnegie Natural Gas Company, Pittsburgh & West Virginia Gas Company, Columbia Gas & Electric Company, and United Fuel Company, and have you those copies present?

A. I did not secure certified copies of those reports.

2194 Q. (Producing the certified copies in question.) Well, do you have certified copies of those reports present now as made to the Board of Public Works?

A. I do.

Q. Are those very voluminous?

A. They are.

Q. Examine the report of the Hope Natural Gas Company and give us in a general way an idea of the extent of the report and its bulk?

A. The Hope Company consists of 137 pages. The greater part of it is typewritten, single-spaced.

Q. Do those reports undertake to segregate the property of the Company according to counties and districts, a detailed list in each?

A. The reports disclose the information in that manner.

Q. Are the other seven reports in the same way?

A. As to size?

Q. Made out in the same way as to details?

A. They are.

Q. Are the other reports also more or less bulky?

A. They are.

Q. Are those reports made, or any part of them, on our printed form, or is the form of that return to the Board of Public Works prescribed?

A. It is, it is a printed form.

2195 Q. How many pages are taken up by the printed form, or prescribed form?

A. Well, all the pages in the report are on the prescribed form. It is true that it is necessary for some of the pages to be duplicated in giving the detail, but——

Q. Outside of the detail, how much?

A. Including the oath, it would be ten pages—eleven pages.

Q. By whom is that form prescribed?

A. By the State Tax Commissioner.

Q. Do you have anything to do with the making up of that form?

A. I prepared it.

Q. When you were connected with that office?

A. Yes, sir.

Q. While you were with the State Tax Commissioner's office, did you personally overlook these reports and supervise them?

A. I did.

Q. And did you examine them, or confer with the Board of Public Works on them?

A. I did.

Q. While you were connected with the Commissioner's office did you make any summary of detail to be taken from these various returns and reports at the end of the year?

A. I did.

2196 Q. State what you did in that connection?

A. After the collection of the returns, and making a proper

analysis, to see whether they were correctly and fully made, I would collect the data or information contained within them which I thought would be material to the Board of Public Works in arriving at the value of the properties, and also enable me to make estimates as to the value of properties to submit to the Board of Public Works. I would gather that data for each company and submit it to the Board.

Q. Well, was that in the form of statistics?

A. It was, it would be a comparative statement and show, as I stated, all the gas companies. I would put as many companies as I could get on a sheet, grading them according to rank, size, and in other ways that would be helpful to the Board in arriving at the value of the properties.

Q. Have you, at our request, prepared copies of these reports for the seven companies I have just named, with the exception of the details as to each county and district, and in place of the details for those counties, made summaries?

A. I have, I think that answers the question.

Q. Have you here before you a certified copy of the full report made by the Hope Natural Gas Company for the year 1919, subject to the inspection of opposing counsel?

A. I do have such report.

Q. I wish you would now produce the shortened and summarized statement, and tell us in what respect it differs from the full report for that Company?

2197 Mr. Weil: That is objected to as incompetent, irrelevant, and immaterial, and especially objected to for the reason that the witness testifying was not employed by, or an officer of, or connected with the Board of Public Works at the time referred to, but was then an officer of or employed by the Public Service Commission, and therefore, this copy or paper prepared by him is not prepared as an official of the Board of Public Works to whom the reports were submitted.

The Commissioner: Note the objection.

Questions asked by Mr. Blue:

Q. These reports to the Board of Public Works, such as the one that you have just produced, and which has been submitted to counsel for the States of Pennsylvania and Ohio, while made to the Board of Public Works, are prescribed by the State Tax Commissioner and are sent to him by the companies making the reports?

A. That is true.

Q. And in the analysis of this report, as well as reports of a like kind, your duties, while with the State Tax Commissioner, as well as since, your duties with the Public Service Commission, have required you to analyze this report as well as reports of like kind, and to submit the result of your analysis to the Board of Public Works. Is that right?

A. Yes. I might state, that I have at this time the same con-

nection with the office of State Tax Commissioner that I had during the previous 8 years mentioned.

Q. As to a report of this kind, and reports of like kind particularly?

2198 A. Yes, in connection with the work of gathering these tax reports and presenting them to the Board.

Q. And this has been your work for approximately 15 years, both as to prescribing, receiving and analyzing these reports?

A. Yes, for fifteen years.

Q. And these original reports, as made out by the Hope and other utility companies, are placed in your hands for that purpose, and have been during the time you have been with the Public Service Commission?

A. Yes, I have personal charge of the gathering of these reports.

Mr. Steptoe:

Q. Answer my question with reference to what difference or differences there are between the full report for the Hope Natural Gas Company, for the year 1919, and the condensed report thereof, just referred to.

A. There would be no change, there is no change in the first ten pages of the report, which deal with the capitalization and financial operations of the company set out in the summary, leases and sales, and matters of that nature. The change that has been made is in the detail of the property reported, on the prescribed form No. 8-U and 8-U continued. In the original reports that is set out in very great detail. As an illustration, in reporting pipe line, the number of miles of pipe line would be given of the various sizes for each taxing district within the state, within which the particular utility operated.

2199 Q. That is, for each taxing district of each County?

A. Yes, for each taxing district of each county, including, of course, magisterial districts, school districts, municipalities, and whatever might be termed a taxing district. Now in making the summary, I have shown for each taxing district the acreage of territory, the number of gas wells, the miles of pipe line, and the total value returned by the company on such property—and the total value returned by the company on all of its property within the taxing districts, and I have also shown in addition to that, the assessment totals for each taxing district, the value fixed by the Board of Public Works.

Q. Explain how the assessment is fixed by the Board of Public Works, is that done for each company, in connection with each report as passed upon by the Board?

A. Oh, yes, certainly. Each company is assessed by the Board.

Q. Then your condensed statement simply makes that change and summarizes the items with respect to each taxing district of each county in the original report?

A. Yes. Instead of giving the number of miles of each size of

pipe, I have given the total number of miles of all the pipe. I have carried that on through as to the acreage and leases or wells.

Q. And to further illustrate, instead of itemizing the number of meters or regulators, amount of copper wire, or the drilling, or cleaning-out tools, matters of that sort, you simply con-

2200 densed that under the total valuation of property?

A. Yes.

Mr. Steptoe: In order to avoid cumbering the record with a large amount of useless detail, we now offer in evidence this condensed report of the Hope Natural Gas Company covering the calendar year 1919, returnable to the Board of Public Works, and will ask that the same be filed as West Virginia Exhibit No. 9.

We have present the certified copy of the full return and a comparison and test of the accuracy of the condensation is invited.

2201 Q. Have you a like condensed statement for the calendar year 1919 for each of the following companies: Pittsburgh and West Virginia Gas Company, United Fuel Gas Company, Reserve Gas Company, Carnegie Natural Gas Company, Columbia Gas and Electric Company, and Manufacturers Light and Heat Company?

A. I have.

Q. Is the explanation and statement you made in reference to the condensation of the Hope Natural Gas Company's report substantially the same with reference to the condensing of these named six reports?

A. It is, with the exception of the Columbia Gas and Electric Company report. The Columbia report was copied in full. It was made in a little different form and was copied in full because, further, it was not very voluminous.

Mr. Steptoe: We now offer in evidence these condensed statements on behalf of the last named six companies, to be marked for identification West Virginia Exhibits Nos. 10 to 15, inclusive.

Q. How many years back have these reports been made to the Board of Public Works?

A. For 15 years. I helped prepare the first one, the first form.

Q. Do the records, the public records at Charleston, in the Public Service Commission and with the Board of Public Works disclose data from which the total gas production of the State can be ascertained?

2202 A. Such information is available from various sources.

Q. Have you access to and have you read the United States Geological Reports touching gas supply and gas conditions generally?

A. I have and I also have copies of such reports back to 1907 or 1908.

Q. Information of that sort on records of that kind are before the Public Service Commission and the Board of Public Works at Charleston, are they?

A. Yes.

Q. Have you had occasion in connection with the duties of your position to ascertain and report with respect to the gas production of the State?

A. I have.

Q. What data do you use or did you use in arriving at the extent of the production?

A. I used the geological survey reports up until 1917. Since that time I used the reports which are made to the state officials and state departments.

Q. Have you made up a statement for us with respect to the total production of gas in the State, and the amount used in field operation and other headings?

A. I have.

Q. I wish you would produce that statement.

(The witness does as requested.)

Q. The statement you give me has a heading "Statement
2203 Showing Production of Natural Gas in West Virginia and the Total Net Public Supply Thereof for the Years 1910 to 1919 inclusive." Take the heading "Total Production" on that statement and tell us how you arrive at the figure there for the year 1919. What is the amount and how did you ascertain it?

A. The amount is 219,053,658 thousand cubic feet. May be I had better express it the other way. Expressed in M. cubic feet 219,053,658 M. cubic feet. This information was gathered from the reports which were submitted to the Public Service Commission by the operating companies operating in the State.

Q. That is, the Public Utilities?

A. Yes.

Q. Was there no other gas produced besides that of the public utilities?

A. Yes. There was quite a considerable quantity produced by independent producers.

Q. How much did you assign or how — out of that figure did you get from the reports of the public utilities, how much did you assign to independent production? In other words, I want to know how you made up your figures 219,053,658 M. cubic feet.

A. Well, all the gas or the product of the gas in the State is handled through the utilities, and by eliminating interchanges and costs we were able to get the total production in the State from the data reported by the utilities.

2204 Q. Explain the other headings as they come on your statement; "Used and Sold in Field Operations," next.

A. That represents the quantity of gas that was used and sold in the field operations; that is, in the production of gas primarily and used in and around the pump stations.

Q. You mean in the drilling of wells and in the running of pump stations?

A. Yes, sir.

Q. Where did you get those figures?

A. Those figures are gotten from the reports that are made by the various public utilities.

Q. The next heading says, "Total Production Less Consumption in Field Operations." How is that figure arrived at?

A. Just by deducting the quantity used and sold in the field operations from the total production.

Q. The next heading is, "Quantity used or Marketed by Private Persons or Enterprises." What about that figure?

A. That is primarily and almost wholly natural gas used in the manufacture of carbon black.

Q. Where did you get your figure on that?

A. That information is furnished the Public Service Commission in monthly reports.

Q. And your next heading is, "Net Public Supply." Explain what you mean by that and how you arrive at the figures.

A. That is the quantity of gas that was available for public service or for sale to the public, in the ordinary use of the term, and it was arrived at by deducting from the total production less con-
2205 sumption in field operation, the quantity that was used by private persons and, as I have stated, primarily in the manufacture of carbon black.

Q. In other words. you have deducted from the total production the amount used in field operations in getting at this and also the amount used by individuals or private enterprises, and the remainder is available for marketing to the general public?

A. Yes.

Q. Referring again to the amount used by private persons, the amount seems to be estimated on your statement from the year 1910 to 1917 inclusive; for the year 1918 it is approximated, and the last year given exactly. Explain that.

A. Well, the figures for 1919 are exact, as shown by the reports from such companies. The figures for 1918 are approximately correct, known to be approximately correct, also from such reports.

(Mr. Blue:)

Q. You mean the fourth column?

A. Yes, sir. The figures marked "estimated" are figures based on the best knowledge we were able to get with best information. I might state that the United States Geological Survey also made that estimate for the previous years. There is no definite information gathered as to that used for those earlier years; but, as I stated, for the years 1918 and 1919 the figures are correct.

Q. As I understand you, the figures you have given for the earlier years are on estimation and approximation and are figures hereto-
fore gathered by the Public Service Commission in con-
2206 nection with date there?

A. As to the figures of 1918 and 1919, I believe you said?

Q. No, of all the years.

A. These figures were not prepared for the purposes of this case,

but have reference to the Public Service Reports showing them from year to year.

Q. With respect to the figures in the other columns of your statement and relating to the total production and the amount used in field operations to the total production, less amount consumed in field operations and the net public supply, are those figures based on reports that you have referred to filed before the Board of Public Works and made to the Commission and other data made to the Commission?

A. They are as to 1918 and 1919. As I have said before, the information as to production for those earlier years was gotten primarily from the United States Geological Survey Reports. The figures for the gas used in field operation for those previous years and for the years prior to 1918 are estimates also. That information was not available prior to the year 1918. In order to arrive at the figures used prior to 1918, the same percentage of total production was applied as was actually used for such purposes during the years 1918 and 1919, so that the quantities of gas shown as used and sold in field operations in the second column are estimates arrived at in such a manner.

(Mr. Blue:)

2207 Q. Based upon the actual figures for 1918 and 1919?

A. Based on the actual figures for 1918 and 1919, yes.

Q. Will you now read into the record the statement as to which you have just testified, marked "Statement Showing Total Production within West Virginia and the Total Net Public Supply thereof 1910-1919."

2208 Answer—

Statement Showing Total Production of Natural Gas within West Virginia and the Total Net Public Supply Thereof.

1910-1919.

	Total production.	Used and sold in field operations.	Total production less consumption in field operations.	Used or marketed by private persons or enterprises.	Net public supply.
	M cu. ft.	*M cu. ft.*	*M c. ft.*	*M cu. ft.*	*M cu. ft.*
1919.....	219,053,658	14,567,068	204,486,590	20,799,543	183,687,047
1918.....	280,289,044	18,639,221	261,649,823	Ap. 34,000,000	227,649,823
1917.....	289,898,967	19,278,281	270,620,686	Est. 25,000,000	245,620,686
1916.....	299,318,907	19,904,707	279,414,200	Est. 20,000,000	259,414,200
1915.....	244,004,159	16,226,277	227,777,882	Est. 20,000,000	207,777,882
1914.....	236,489,175	15,726,530	220,762,645	Est. 20,000,000	200,762,645
1913.....	245,453,985	16,322,690	229,131,295	Est. 20,000,000	209,131,295
1912.....	239,006,682	15,893,944	223,112,738	Est. 20,000,000	203,112,738
1911.....	206,890,576	13,758,223	193,132,353	Est. 20,000,000	173,132,353
1910.....	190,705,869	12,681,940	178,023,929	Est. 20,000,000	158,023,929

2209 Q. Do you know from your connection with the Commission whether or not any of the public utilities in the gas business are selling gas to the carbon companies?

A. I do not think they are, only to a very limited extent. The United Fuel Gas Company, I believe, is using a very small quantity of gas for such purposes.

Q. Do you mean it has a carbon plant?

A. Yes, sir.

Q. There are one or two carbon companies, as you testified a while ago, who also have consumers. Are they using gas for the manufacture of carbon?

A. They are.

Q. Their service to the consumers is merely to their employes and incidental?

A. It is incidental to their general business.

Q. Do you know whether there has been any decrease in the amount of gas used in the manufacture of carbon black in the last few years?

A. There has been a considerable decrease. There was in 1919 from 1918.

Q. Do you know how to account for that?

A. Well, gas is worth more for other purposes, is the primary reason for it. They could not afford to use it for the manufacture of carbon black.

Q. Does the Public Service Commission have any rates or regulations with respect to the supply of natural gas to carbon companies?

2210 A. They do not.

Q. Do you know of any regulation ever made for or by a carbon company for the service of gas from any of the public utilities?

A. No, the manufacture of carbon black is not considered public service business.

Q. The Commission has never taken any jurisdiction over it?

A. It has not.

Q. Now, with respect to the reports you have filed for, the seven companies, that is, the Hope Natural Gas Company and others referred to a few moments ago, let me ask you if the Hope Natural Gas Company in its return for the year 1919 claims any connection with the East Ohio Gas Company?

A. It sells gas to the East Ohio. I do not know as there is any reference to it in any other way.

Q. What I want to bring out is whether the Hope Company reports as an independent company, whether or not its rates are based on its own return?

A. It reports as an independent company.

Q. Its return has no affiliation with the East Ohio or the Peoples Natural Gas Company?

A. No.

Q. And are those gas rates fixed on the business it does itself?

A. Yes.

2211 Q. Referring to the report—see what statement, if any is contained in the report about doing business out of the State of West Virginia?

A. The business of the Hope is confined to the State of West Virginia.

Q. Well, what statement does it make in its return on that subject?

A. Well, it shows in various ways that its property is confined to the State, its properties and business. Page 2 would indicate clearly it had no property outside the State. Pages 6 and 7 would show very clearly also that its operations and properties are confined to the State.

Q. Is the same thing true with reference to the report of the Pittsburgh and Western Gas Company and Reserve Gas Company?

A. Yes.

2212 Q. Now, then, are you able to give us a statement of the amounts of natural gas produced in West Virginia, and the amount that is produced by the Hope Natural Gas Company, the Pittsburgh and West Virginia Gas Company, the Reserve Gas Company, the Carnegie Natural Gas Company and the Columbia Gas & Electric Company and the Manufacturers Light & Heat Company?

A. I am.

Q. In this statement you have given me, you show for the years 1911 to 1919, separately, the supply of natural gas produced and acquired in West Virginia by the seven companies just mentioned, do you not?

A. Yes.

Q. How is that supply made up? Is it entirely production?

A. From the gas produced by the seven companies and the gas purchased by them from other producers and operators.

Q. Is the production shown in one column and the purchases in the second column?

A. Yes.

Q. And the third column shows the gross supply; is that correct of the first two?

A. That is correct of the first two.

Q. The fourth column shows the interchanges spoken of?

A. That is sales between the seven companies. That is eliminated in order not to duplicate.

2213 Q. The fifth column shows the quantities used or sold for field purposes. Is that the same figure you have heretofore spoken of as what is used for field purposes?

A. Yes, that is the explanation I have given before, which would apply here.

Q. What is the last column?

A. The net supply for public service of the seven companies.

Q. How did you arrive at that figure?

A. That is the gross sales of the seven companies after deducting the interchanges between and among the seven companies and the gas used by the seven companies for field purposes. In other words,

that is the supply which the seven companies have to offer to the public.

Q. That sheet is a summary, is it not, covering the seven companies altogether?

A. Yes, sir.

Q. For the calendar year?

A. Yes. It shows the totals for each year for the seven companies.

Q. Have you, in attached sheets, shown these same figures with reference to each of the seven companies, for each year, 1911 to 1919, inclusive?

A. Yes, I have.

Q. Are your figures and statistics there based upon the
2214 same sources of information and knowledge that you have already testified about?

A. They are.

Mr. Steptoe: We now offer in evidence the statements referred to by the witness in the following order: first, the summary for the years 1911 to 1919, with the heading "Statement showing supply of natural gas produced and acquired within West Virginia, by the Hope Natural Gas Company, Pittsburgh and West Virginia Gas Company, United Fuel Gas Company, Reserve Gas Company, Carnegie Natural Gas Company, Columbia Gas and Electric Company and Manufacturers Light and Heat Company, combined for the seven companies." This statement is to be filed as West Virginia Exhibit No. 16. Then, in the order following, the statements separated for each of the seven companies, one for each year, 1919 back to 1911, inclusive, to be marked, in order, West Virginia Exhibits Nos. 16-*a*, 16-*b*, 16-*c*, 16-*d*, 16-*e*, 16-*f*, 16-*g*, 16-*h*, and 16-*i*.

Q. Are you able to give us the figures as to what percentage of the total net supply for public service of West Virginia gas is controlled by these seven companies?

A. I am.

Q. Are your figures in that regard based upon the information and knowledge you have testified about previously?

A. They are.

Q. Will you give us in the record the total net supply for public service of all gas produced in West Virginia and then the net supply for the seven companies; then the percentage of the total net supply which is controlled by the seven companies for the years 1911 to 1919, inclusive?

2215 Answer.—

Statement Showing Total Net Supply for Public Service of Natural Gas Produced within West Virginia and the Total thereof of the Hope Natural Gas Company, Pittsburgh and West Virginia Gas Company, United Fuel Gas Company, Reserve Gas Company, Carnegie Natural Gas Company, Columbia Gas and Electric Company, and Manufacturers Light and Heat Company Combined for the Seven Companies.

1911-1919.

	Total net supply for public service.	Net supply of the seven companies.	Percentage of the net supply of the seven companies to the total net supply.
	M cu. ft.	*M cu. ft.*	
1919.....	183,687,047	164,426,341	89.5%
1918.....	227,649,823	201,685,702	88.6%
1917.....	245.620.686	223,517,777	91.0%
1916.....	259,414,200	200,892,583	85.1%
1915.....	207,777,882	170,694,495	82.1%
1914.....	200,762,645	166,625,730	83.0%
1913.....	209,131,295	167,897,746	80.3%
1912.....	203,112,738	172,050,962	84.7%
1911.....	173,132,353	147,431,246	85.1%

2216 Q. Are you able to give us a statement which will show the amount of gas produced in West Virginia which is used by the West Virginia consumers, and the percentage thereof with reference to the total net supply of such gas?

A. I have such a statement.

Q. Please put it in the record.

2217 Answer.—

Statement Showing Total Net Supply for Public Service of Natural Gas Produced within West Virginia and Total Thereof Furnished to West Virginia Consumers.

1911-1919.

	Total net supply for public service.	Sales to West Va. consumers.	Percentage of the total net supply sold to West Va. consumers.
	M cu. ft.	*M cu. ft.*	
1919.....	183.687,047	46,654,098	25.4%
1918.....	227,649,823	52,985.173	23.3%
1917.....	245,620,686	48,942,388	19.9%
1916.....	259,414,200	59,409,460	22.9%
1915.....	207,777,882	53,147,718	25.6%
1914.....	200.762.645	50,600,709	25.2%
1913.....	209,131,295	53,629,419	25.6%
1912.....	203,112,738	51,968,488	25.6%
1911.....	173,132,353	40,265,294	23.3%

2218 Q. The column on that statement just given, and under the heading "Total net supply for public service" is the total net public supply for the state, is it not?

A. It is of all gas produced within the state.

Q. Now, under the next heading, "Sales to West Va. consumers," have you embraced all of the consumers in West Virginia?

A. That is consumption that was used in public service or delivered to the public.

Q. And the third heading is the percentage which the amount so used in West Virginia bears to the total public supply?

A. Yes.

Q. Can you give us a statement of the percentage of the total public supply of each of the seven companies which is marketed to West Virginia consumers?

A. I can.

Q. Please give that statement into the record.

2219 Answer.—

Statement Showing Total Net Supply for Public Service of Natural Gas Produced within West Virginia of the Hope Natural Gas Company, Pittsburgh and West Virginia Gas Company, United Fuel Gas Company, Reserve Gas Company, Carnegie Natural Gas Company, Columbia Gas and Electric Company, and Manufacturers Light and Heat Company and the Total Thereof Furnished by the said Seven Companies to West Virginia Consumers.

1911-1919.

	Total net supply of the seven companies.	Sales to West Virginia consumers.	Percentage of total supply of seven companies sold to West Virginia consumers.
	M cu. ft.	*M cu. ft.*	
1919.....	164,426,341	29,360,811	17.9%
1918.....	201,685,702	30,120,273	14.9%
1917.....	223,517,777	26,889,876	12.0%
1916.....	220,892,583	24,526,859	11.1%
1915.....	170,694,495	18,860,867	11.0%
1914.....	166,625,730	20,612,599	12.4%
1913.....	167,897,746	22,297,677	13.3%
1912.....	172,050,962	21,101,443	12.3%
1911.....	147,431,246	17,200,747	11.7%

2220 Q. Have you, at our request, prepared a statement showing the total acreage of gas territory held by these seven companies in the State of West Virginia for the years 1910 to 1919, inclusive, together with a separate sheet for each year, 1919 back to 1911, both inclusive, giving the acreage separately of each of the seven companies?

A. I have prepared such a statement.

Q. Is that statement taken from the returns of the seven companies sworn to and filed before the Board of Public Works which you have testified to?

A. It is.

Q. With respect to the Manufacturers Light and Heat Company, I will ask you if, by that company, you mean the Manufacturers Light and Heat Company of Pennsylvania, a Pennsylvania corporation?

A. Yes, I mean the Pennsylvania corporation. I do not understand that that is a part of the title of the company, however.

Q. You mean that you think the name is the Manufacturers Heat and Light Company?

A. Yes, sir.

Q. Has that company always reported to the Board of Public Works from the year 1910 to date or has it reported through subsidiaries?

A. Yes, it has; either under its name or through its subsidiaries.

2221 Q. How did you ascertain the acreage of that company as given in this statement?

A. Well, for the early years, when it reported through it subsidiary companies in the state, I took the totals reported of the subsidiary companies and for the later years I took it from the company itself.

Q. How long has it been reporting direct to you?

A. For seven or eight years.

Mr. Steptoe: We now offer in evidence the statement, and its subdivisions, just referred to by the witness, to be marked as exhibits, in the order mentioned, West Virginia Exhibit No. 17, which will be the summary, and West Virginia Exhibits Nos. 17-*a* to 17-*k*, inclusive, covering the subdivisions of the statement in the order named.

Q. In connection with this last filed exhibit, we ask you if much acreage is held by some of the larger oil companies that are operating in West Virginia?

A. Yes, there is a very large acreage held by some few of the oil companies.

Q. Is any part of their acreage gas territory?

A. They hold some.

Q. Do they produce gas?

A. To a limited extent.

Q. Are there any of those companies that are allied with one or more of the large gas companies, the seven companies you have referred to?

A. Yes, some of the larger oil companies are.

2222 Q. Mention some of them.

A. The South Penn Oil Company is closely allied with the Hope Natural Gas Company and the Reserve Gas Company. The Ohio Fuel Oil Company is a large producing company. I do not know just how closely allied it is but in the earlier years it was

closely allied to the United Fuel Gas Company. I am not informed as to the relationship at this time.

Q. What about the Carter Oil Company?

A. The Carter Oil Company is closely allied to the Hope and the Reserve. Those are all Standard Oil companies.

Q. Do you mean to include the Ohio Fuel Oil Company with the Standard?

A. No, I do not but I do the others. Then the Philadelphia Oil Company is a large producer of oil. It is allied with the Pittsburgh and West Virginia Gas Company. It, however, has no natural gas production that I know of.

Q. What becomes of the gas of those large oil companies? To whom do they market when they strike gas with their oil operations?

A. Speaking of the Hope and the South Penn, it has long been a sort of understanding that natural gas production developed by the South Penn would be turned over to the Hope. The oil production, I think, of the Hope would be turned over to the South Penn.

Q. That condition does not maintain right now, does it?

2223 A. I do not think it does. At any rate, I know in recent years the South Penn has held considerable of its gas production and the Hope Company has produced considerable oil.

Q. I meant to bring out whether these affiliated oil companies market their gas to the kindred gas companies.

A. Yes. The Ohio Fuel Oil Company sells practically all gas that it produces to the United Fuel Gas Company. The South Penn sells practically all of the oil that it produces (or did until recently) to the Fayette County Gas Company, which is closely allied, as I understand, with the Hope Company.

(Mr. Blue:)

Q. You said "Sold all of its oil": Did you mean oil or gas?

A. Gas.

Q. In your computation of the gas territory held by the larger companies have you included any of the territory held under lease by the oil companies that market to them?

A. No.

Q. And you have not, of course, included any of the acreage of any of the independent producers who sell their gas to the seven companies?

A. No.

Q. It is simply the territory actually held under lease directly by the seven companies as disclosed in their reports to the Board of Public Works?

A. Yes.

Q. Do the United States Geological Reports disclose the

2224 total acreage held under lease for gas purposes in West Virginia, Ohio and Pennsylvania?

A. They do, as well as all other states of the Union.

Q. I wish you would give us, as far as available from those re-

ports, the acreage so held in those three states, separately, and the total.

2225 Answer.—

Statement Showing Acreage Controlled by Natural Gas Producers in West Virginia, Ohio, and Pennsylvania.

	West Virginia.	Ohio.	Pennsylvania.	Total.
1918.....	3,318,896	2,561,423	2,410,310	8,290,630
1917.....	3,787,185	2,260,028	2,436,029	8,483,242
1916.....	3,866,373	1,558,231	2,398,118	7,822,722
1915.....	3,184,245	1,519,229	2,174,403	6,877,878
1914.....	3,091,506	1,361,778	2,153,119	6,606,403
1913.....	3,155,751	1,515,562	2,211,440	6,882,753
1912.....	3,019,316	1,756,167	2,187,388	6,962,875
1911.....	3,399,213	1,643,228	2,032,772	6,075,213
1910.....	3,348,286	1,423,351	1,949,733	6,721,370

2226 Q. I observe that the last year is 1918.

A. Yes.

Q. Why have you not given 1919 or later?

A. The 1919 report is not yet available. It is not ready for distribution.

Q. Can you give us the total acreage, developed and undeveloped, and the total of both kinds of gas territory, held by each and every of the gas utilities doing business in the State of West Virginia?

A. I can.

Q. Please give us that statement in the record.

2227 Answer.—

Statement Showing Acreage Held in West Virginia by Natural Gas Utilities December 31, 1919.

	Undeveloped.	Developed.	Total.
Aizpuru Oil and Gas Company	17	149	166
Allen, Virgil I.	.....	64	64
Bailey Gas Company	135	1,500	1,635
Berea Heat and Light Company	.....	6	6
Bridgeport Natural Gas and Oil Company	105	468	573
Bristol Oil and Gas Company	.....	227	227
Buckhannon Fuel Company	.....	239	239
Cameron Heat and Light Company, The	.....	211	211
Cather Gas Company, J. B.	350	150	500
Centerville Pipe Line and Gas Company	.....	.....	.....
Charleston-Dunbar National Gas Company	25,787	1,612	27,399
City and Suburban Gas Company	207	1,761	1,968
Clarksburg Light and Heat Company	3,683	8,483	12,166
Comet Oil and Gas Company, The	3,085	1,800	4,885
Fay Company	450	.....	450
Gassaway Gas Company	.....	.....	.....
Glenville Natural Gas Company	.....	200	200
Harshbarger Oil and Gas Company	1,050	1,000	2,050
Home Petroleum and Natural Gas Company, The	.....	251	251
Huntington Development and Gas Company	3,393	1,491	4,884
Imperial Oil and Gas Products Company	7,172	3,331	10,503
Jane Lew Light and Heat Company, The	2	40	42
Keener's Oil, Natural Gas and Fuel Company	.....	.....	.....

Statement Showing Acreage Held in West Virginia by Natural Gas Utilities December 31, 1919.—Cont'd.

	Undeveloped.	Developed.	Total.
Light, Fuel and Power Company of West Va.	.....	.....	.....
Lumberport Gas Company	51	.....	51
Manufacturers Gas and Electric Light Co.	11	126	137
Monongahela Valley Traction Company	14,620	5,047	19,667
Montgomery Gas Company, The	1,180	373	1,553
Moore, Herman	.....	35	35
Mountain State Gas Company	.....	.....	.....
Natural Gas Company of West Virginia	12,276	.....	12,276
Northern Natural Gas Company, The	.....	.....	.....
Point Pleasant Natural Gas Company	.....	.....	.....
Raccoon Gas Company	525	378	903
Randall Gas Company	2,067	1,611	3,678
Reno Gas Company	.....	.....	.....
Salem Natural Gas Company	.....	386	386
Shields Oil and Gas Company, The	150	1,710	1,860
Shinnston Gas Company	.....	4	4
Southern West Va. Oil and Gas Corporation	11,187	1,035	12,222
2228 Travis, G. B.	460	8	468
Troy Oil and Gas Company	.....	66	66
West Union Gas Company	212	155	367
West Virginia Central Gas Company	24,703	9,364	34,067
West Virginia Heat and Light Company	218	436	654
West Virginia and Maryland Gas Company	.....	.....	.....
West Virginia Traction and Electric Co.	6,770	6,117	12,887
Wetzel Natural Gas Company	28	45	73
Totals	119,894	49,879	169,773

Hope Natural Gas Company	690,094	338,776	1,028,870
Pittsburgh and West Virginia Gas Company	209,128	108,198	317,326
United Fuel Gas Company	653,699	62,337	716,036
Reserve Gas Company	4,664	51,556	56,220
Carnegie Natural Gas Company	33,921	43,171	77,092
Columbia Gas and Electric Company	180,933	28,737	209,670
Manufacturers Light and Heat Company	94,281	56,530	150,811
Totals (seven companies)	1,866,720	689,305	2,556,025
Grand total	1,986,614	739,184	2,725,798
Percentage of grand total held by seven companies	93.9%	93.2%	93.8%

2229 Q. Have you included, among the natural gas utilities, on this list, all of the utilities enumerated in your list previously given of the natural gas utilities doing business in West Virginia? I call your special attention to the Ohio Fuel Oil Company, which is not given in your last statement.

A. Yes. That is not included for the reason that it does practically no public service business. As I have stated before, while it produces some natural gas, it sells almost its entire product to the United Fuel Gas Company. It is primarily an oil producing company.

Q. Have you left any other companies out of this list that were on your former list and, if so, why?

A. I do not believe any others were left out, except some companies that, as I said before, were just incidentally in the natural gas business and supplied a very small service to the public.

Q. That is to say, a few carbon companies that supply their own employees?

A. Yes; use their own consumption.

Q. With respect to the Gassaway Gas Company you give no acreage of any kind. Explain that.

A. They have none.

Q. What is the explanation?

A. They get their supply of gas from the Light, Fuel & Power Company; indirectly from the Hope Natural Gas Company.

Q. And has no territory or production of its own?

A. No, it has no territory or production.

2230 Q. On that list you have given appears the Mountain State Gas Company. Where does that company do business?

A. In Kanawha and Boone Counties.

Q. Do you happen to know whether or not it has any connection with the company that used to do business in Parkersburg and the northern part of West Virginia called the Mountain State Gas Company?

A. It has no connection with that company.

Q. Are you able to state whether or not the Home Petroleum and Natural Gas Company and Shinnston Gas Company, given in your statement, are yet in business?

A. The Shinnston Gas Company has gone to pieces. This statement was made as of December 31st, 1919, you will notice. Since that date I have some advices that the Home Petroleum and Natural Gas Company has discontinued its business.

Q. You do not know of your own personal knowledge?

A. No, I do not know of my own personal knowledge.

Q. Do the records of the Public Service Commission and the Board of Public Works disclose the incorporated cities and towns of West Virginia that are supplied with natural gas?

A. They do.

Q. Please give us a list of those incorporated towns and cities and, while you are doing so, give us the population for the years 1900, 1910 and 1920 of each city or town.

2231 Answer.—

Statement Showing Incorporated Cities and Towns of West Virginia Supplied with Natural Gas, and the Population Thereof, 1900, 1910, and 1920.

	Population. 1920.	Population. 1910.	Population. 1900.
Belington, Barbour County	1,766	1,481	430
Junior, " "	593	435	338
Philippi, " "	1,543	1,038	665
Burnsville, Braxton County	1,088	770	...
Flatwoods, " "	300	234	...
Gassaway, " "	1,518	1,086	...
Sutton, " "	1,500	1,121	864
Danville, Boone County	327	.....	...
Madison, " "	604	295	...
Bethany, Brooke County	400	433	245
Follansbee, " "	3,135	2,031	...
Wellsburg, " "	4,918	4,189	2,588
Barboursville, Cabell County	974	907	429
Huntington, " "	50,177	31,161	11,923
Milton, " "	1,023	837	582
Grantsville, Calhoun County	450	282	225
West Union, Doddridge "	1,270	779	623
Montgomery, Fayette "	2,130	1,888	1,594
Glenville, Gilmer "	327	336	398
Layopolis, " "	175	156	...
Troy, " "	113	144	148
Bayard, Grant "	1,074	417	540
Chester, Hancock County	3,283	3,184	...

Statement Showing Incorporated Cities and Towns of West Virginia Supplied with Natural Gas.—Cont'd.

	Population, 1920.	Population, 1910.	Population, 1900.
Holidays Cove, " "	1,213	.....	...
New Cumberland, " "	1,816	1,807	2,198
Bridgeport, Harrison "	1,346	577	464
Clarksburg, " "	27,869	9,201	4,050
Lumberport, " "	900	656	...
Salem, " "	2,920	2,169	746
Shinnston, " "	1,679	1,224	535
Ravenswood, Jackson "	1,284	1,081	1,074
Ripley, " "	580	591	579
Cedar Grove, Kanawha "	918	679	...
Charleston, " "	39,608	22,996	11,099
Clendenin, " "	1,263	815	...
East Bank, " "	586	551	468
Eskdale, " "	1,161	...	...
Pratt, " "	315	306	...
South Charleston, " "	3,650	...	...
St. Albans, " "	2,825	1,209	816
Union Mines, " "	291	...	...
Jane Lew, Lewis "	560	327	...
Weston, " "	5,701	2,213	2,560
2232			
Hamlin, Lincoln County	516	.....	.....
Logan, Logan "	2,998	1,640	444
Fairmont, Marion "	17,851	9,711	5,655

Fairview, " "	827	782	.....
Farmington, " "	679	519	.....
Mannington, " "	3,673	2,672	1,681
Monongah, " "	2,031	2,084	1,786
Rivesville, " "	1,061	190	164
Worthington, " "	381	292	.....
Benwood, Marshall "	4,773	4,976	4,511
Cameron, " "	2,404	1,660	964
McMechen, " "	3,356	2,921	1,465
Moundsville, " "	10,669	8,918	5,362
Point Pleasant, Mason County	3,059	2,045	1,934
Elk Garden, Mineral "	422	438	581
Keyser, " "	6,003	3,705	2,536
Piedmont, " "	2,835	2,054	2,115
Kermit, Mingo "	636	.....	.....
Williamson, " "	6,819	3,561	.....
Blacksville, Monongalia "	218	204	180
Morgantown, " "	12,117	9,150	1,895
Star City, " "	1,202	318	.....
Triadelphia, Ohio County	299	261	287
Wheeling, " "	54,322	41,641	38,878
St. Marys, Pleasants County	1,648	1,358	825
Kingswood, Preston "	1,417	800	700
Tunnelton, " "	703	792	479
Albright, " "	262	.....	.....
Terra Alta, " "	1,261	1,126	616
Rowlesburg, " "	862	936	652
Hurricane, Putnam "	666	422	240
Beverly, Randolph "	212	438	464
Elkins, " "	6,788	5,260	2,016

Statement Showing Incorporated Cities and Towns of West Virginia Supplied with Natural Gas.—Cont'd.

			Population, 1920.	Population, 1910.	Population, 1900.
Huttonsville,	"	"	265	251	.....
Mill Creek,	"	"	762	740	.....
Montrose,	"	"	129	112	.....
Cairo,	Ritchie	"	662	668	653
Ellenboro,	"	"	286	204	.....
Harrisville,	"	"	1,036	608	472
Pennsboro,	"	"	1,654	930	738
Alvord,	Roane	"	285	229	.....
Reedy,	"	"	373	313	300
Spencer,	"	"	1,765	1,224	737
Grafton,	Taylor	"	8,517	7,563	5,650
Davis,	Tucker	"	2,491	2,615	2,391
Hambleton,	"	"	488	1,300	.....
Hendricks,	"	"	622	640	317
Parsons,	"	"	2,001	1,780	618
St. George,	"	"	150	245	152
Thomas,	"	"	2,099	2,354	2,126

2233

Centreville,	Tyler	County	155	113	156
Friendly	"	"	173	217	253
Middlebourne,	"	"	929	546	403
Paden City,	"	" (part of)	215	.....	.....
Sistersville,	"	"	3,238	2,684	2,979
Buckhannon,	Upshur	"	3,785	2,225	1,589
Ceredo,	Wayne	"	1,110	1,215	1,279

Fort Gay,	"	"	617	.....	.....
Kenova,	"	"	2,162	992	863
Wayne,	"	"	981	.....	.....
Brooklyn,	Wetzel	"	724	627	632
Hundred,	"	"	710	557	261
Littleton,	"	"	660	712	509
New Martinsville,	"	"	2,341	2,176	1,089
Paden City,	"	"	1,490	.....	.....
Pine Grove,	"	"	(part of)	797	474
Smithfield,	"	"	774	765	.....
Elizabeth,	Wirt	"	681	674	657
Parkersburg,	Wood	"	20,050	17,842	11,703
Williamstown,	"	"	1,793	1,139	.....
Totals			395,113	265,506	159,435

2234 Q. Where did you get your figures on population?

A. I got them from the census department at Washington by special request.

Q. At an earlier stage of the testimony you gave us the names of the gas producing counties. I wish you would now tell us the population of each such county, the number of these seven companies which is operated within each county, the number of municipalities served and the population of each such municipality in each county.

A. The statement I have prepared would show those figures for the counties in which there is production, also the counties of Mason, Nicholas, Raleigh and Webster, and the counties in which one or more of the seven companies were operated within in some manner but counties in which there is no gas being produced.

Q. You mean to say that in Fayette, Nicholas, Raleigh, Mason and Webster there is no production?

A. That is true as to Mason, Nicholas, Raleigh and Webster and, with my qualified statement as to Fayette and Nicholas.

Q. In all those the seven companies either produce, have pipe lines and serve the public?

A. Yes.

Q. I wish you would now give us that statement.

Statement Showing Counties in West Virginia Operated within and Municipalities Served by the Hope Natural Gas Company, Pittsburgh and West Virginia Gas Company, Reserve Gas Company, Carnegie Natural Gas Company, Columbia Gas and Electric Company, and Manufacturers Light and Heat Company and the Population of Such Counties and Municipalities as of December 31, 1919.

Counties.	Population, 1920.	Number of companies operating within.	No. of municipalities served & population thereof.	
			No. served.	Population.
Barbour	18,028	2	..	....
Boone	15,319	1	..	....
Braxton	23,973	33	..	....
Brooks	16,527	2	4	8,667
Cabell	65,746	2	2	51,151
Calhoun	10,268	3	..	....
Clay	11,486	2	..	....
Doddridge	11,976	5	..	....
Fayette	60,377	1	..	....
Gilmer	10,668	4	..	....
Hancock	19,975	1	3	6,312
Harrison	74,793	5	..	....
Jackson	18,658	1	2	1,864
Kanawha	119,650	3	4	45,107
Lewis	20,455	4	..	....
Lincoln	10,378	2	..	....
Logan	41,006	2	1	2,998
Mason	21,459	1	..	....
Marion	54,571	4	3	4,881

Statement Showing Counties in West Virginia Operated within and Municipalities Served.—Continued

Counties.	Population, 1920.	Number of companies operating within.	No. of municipalities served & population thereof.	
			No. served.	Population.
Marshall	33,681	4	3	18,798
Mingo	26,364	2	2	7,455
Monongalia	33,608	4	1	218
Nicholas	20,717	1	..	....
Ohio	61,006	1	..	....
Pleasants	7,379	3	1	1,648
Putnam	17,531	2	1	666
Raleigh	42,482		..	....
Ritchie	16,506	4	..	....
Roane	20,129	1	3	2,423
Taylor	18,742	2	1	8,517
Tyler	14,186	4	4	4,555
Upshur	17,851	2	..	....
2236				
Webster	11,562	1	..	....
Wetzel	23,069	4	7	7,496
Wirt	77,536	1	..	....
Wood	42,306	2	2	21,843
Wayne	26,012	2	5	4,870
Totals	1,065,980	..	49	199,469

2237 Q. In that connection, I believe you have heretofore testified that there is leasehold territory held by the seven companies, or by one or more of them, in the counties of Fayette, Nicholas, Mason, Raleigh and Webster?

A. Yes.

Q. And with those exceptions, as I now understand you, one or more of the seven companies produces gas, has pipe lines and is serving the public in all the other counties?

A. Yes.

Q. Have you at our request, prepared a statement showing the number of consumers within West Virginia supplied with natural gas by the seven companies for the year 1919 back to 1910, inclusive?

A. I have.

Q. And including also the local utilities to which the seven companies sell in the State of West Virginia?

A. I have.

Q. From what source or sources did you gather that data?

A. From public records in the State departments.

Q. But primarily from the returns of these companies?

A. The monthly reports. I might state also, as to the Hope Natural Gas Company, from personal investigation of the books and records of the Hope Company.

Q. In connection with that statement, covering the calendar years, for all seven companies combined, have you likewise prepared a statement showing the same matters with respect to each of

2238 the seven companies in each year separately?

A. I have.

Q. Under the heading "Industrial Consumers" whom have you included?

A. I have included such consumers as have been classified by the companies as industrial consumers, excluding, however, well drillers and field consumers of that class.

Q. Are such sales in the field for the drilling of wells and conducting of pump stations classified under the heading of "Industrial Consumption?"

A. They are excluded from these figures.

Q. And excluded by the Public Service Commission?

A. They are. In the reports made by the companies they classify them as industrial consumers.

Q. All the companies do so?

A. I think so. I think may be one or two companies may make a separation.

Q. But they are all complete and show whether the service is in the field or to the ordinary industrial consumer?

A. They show that.

Q. I call your attention to the fact, in the return for the year 1919 heretofore exhibited, the Hope Natural Gas Company shows that it sells gas to 745 industrial consumers, while you give the number for the corresponding year in your present exhibit at 131. Will you explain that discrepancy?

A. I have excluded field consumers; that is, in the nature of drillers.

2239 Q. How does the number you have given in the present exhibit for the Pittsburgh and West Virginia Gas Company tally with the return to the Board of Public Works for that Company?

A. The figures submitted in the report to the Board of Public Works and those used by me are the same.

Q. That is 86?

A. 86.

Q. How about the United Fuel Gas Company?

A. The report made to the Board of Public Works shows 169, which also is the same as shown in the statement I have prepared.

Q. And your figures in your present exhibit for the Manufacturers Light and Oil Heat Company correspond precisely with the return of that company to the Board of Public Works for the year 1919.

A. Yes, sir.

Q. Both your figures in the present exhibit and the return of the Columbia Gas and Electric Company shown no industrial consumers for that company in the year 1919, is that correct?

A. My figures show one.

Q. You have this company with one industrial consumer and its report shows none?

A. Yes.

Q. How do your present figures tally with respect to the Carnegie Company?

2240 A. The report made to the Board of Public Works shows 6 manufacturers and 12 contractors. The report prepared by me shows none.

Q. You have, however, taken your figures from the monthly report returned by this Carnegie Company?

A. Yes.

Q. That would indicate an abandonment of that service, would it, if they furnished six manufacturers at all in West Virginia?

A. Well, I would not be in a position to answer that.

Q. With regard to Reserve Gas Company, your present figures show no industrial consumers and its report for the year 1919 to the Board of Public Works shows how many?

A. 53.

Q. Did you ascertain from the monthly reports of that company the character of that industrial service?

A. The monthly reports indicated that they did not supply any industrials.

Q. But did supply in the field?

A. Yes.

Q. Then, it would appear that the Hope Company and the Reserve Company in their annual reports have included field service for the drilling of wells and running of pump stations as industrial consumption where the other companies have not?

A. Except the Carnegie Natural Gas. It appears that possibly

they have included in their report to the Board of Public Works field consumers.

2241 Q. What is included by the Hope Company in its number of sales in the field?

A. Well, it is almost wholly made up of drilling and pumping sales.

Q. Does it include therein drilling as well as sales to contractors and others?

A. Yes, it does.

Q. Explain that more fully, and what would be an industrial consumer of the Hope Company? Would it charge as an industrial consumer wherever it supplies gas for a well drilled by it? Would each drilling operation be a consumer?

A. Yes, they would consider that a consumer.

Q. How long does the ordinary drilling operation take to drill in a well?

A. That depends on weather conditions. I expect the average time—I am not able to speak to that.

Q. You know it would not be over 60 days with good luck.

A. The average time I would say would be 60 days.

Mr. Steptoe: We now offer in evidence the statement with reference to consumption in West Virginia furnished by the seven companies above referred to, with the summary to be marked West Virginia Exhibit No. 18, and the separate statements for the years 1919 back to 1910 to be marked West Virginia Exhibits Nos. 18-*a* to 18-*j* in the order named.

Q. In your exhibit under the heading "Local Utilities Service by these seven companies," have you included local utilities

2242 which were furnished with emergency service or casual service?

A. Yes.

Q. Your list there of utilities served does not mean there is a regular service for the year around?

A. Not necessarily in all cases.

Q. With the character of the service, the amount to be supplied and under what terms and conditions, I presume you have no knowledge?

A. No.

Q. Can you give us the mileage of pipe lines of the seven companies in the State of West Virginia.

A. I can.

Q. Can you give that so as to show the amount of the pipe lines in size two inches up to 10 inches and then separately, the pipe lines 10 inches and over, with totals?

A. I can.

Q. And as of December 31, 1919?

A. Yes.

Q. Please give us that statement now.

2243 Answer.—

Statement Showing Miles of Pipe Line in Use within West Virginia by the Hope Natural Gas Company, Pittsburgh and West Virginia Gas Company, United Fuel Gas Company, Reserve Gas Company, Carnegie Natural Gas Company, Columbia Gas and Electric Company, and Manufacturers Light and Heat Company December 31, 1919.

	2 to 10 inches.	10 inches and over.	Total.
1. Hope Natural Gas Company.....	2,525	751	3,276
2. Pittsburgh and West Virginia Gas Company	757	454	1,211
3. United Fuel Gas Company.....	754	368	1,122
4. Reserve Gas Company.....	306	220	526
5. Carnegie Natural Gas Company.....	330	181	511
6. Columbia Gas and Electric Company..	134	49	183
7. Manufacturers Light and Heat Company	532	257	789
Totals	5,338	2,280	7,618

2244 Q. You have lived all of your life in West Virginia, have you not?

A. Except one year.

Q. You have some familiarity with local matters as a matter of common knwoedkge and observation, have you not?

A. I hope so.

Q. Do you know about whether any of these pipe lines use the roads of the State in crossing or running along them?

A. They do.

Q. Is that more or less common?

A. It is.

Q. How do they get the right to run these lines along in the roads and across them?

A. The right is granted by the county courts.

Q. Do the companies have telephone and telegraph lines of their own, the larger ones?

A. They do.

Q. Where do they run those?

A. Very frequently along the public rights-of-way.

Q. Under like franchises?

A. Yes.

Q. You gave us a while ago a long list of incorporated towns and villages of the State of West Virginia being served by natural gas utilities. A number of those towns are served by the seven companies themselves, are they not?

A. Yes.

Q. Where that is done, do they furnish them under
2245 franchises?

A. As a rule.

Q. And where there is no incorporated town or village, or com-

munity, from what source do they get the right to serve those villages?

A. Well, the only authority would be the county court, I think, but I do not know if it is necessary to get the right in cases of that kind.

Q. Ordinarily their rights-of-way for pipe lines include the rights for telephone and telegraph lines, do they not?

A. Well, I am not sure as to that. I know they have the right for both classes of service. I am not sure as to what is the common custom, however.

Q. As to the form of contract generally used you are not familiar with it?

A. No.

Q. Are you able to give us the figures touching distribution by the seven companies of their net supply for public service?

An adjournment was here taken until Thursday, December 16, 1920, at ten o'clock a. m.

2246 Supreme Court of the United States, October Term, 1919.

THE COMMONWEALTH OF PENNSYLVANIA, Complainant,

vs.

THE STATE OF WEST VIRGINIA.

THE STATE OF OHIO, Complainant.

vs.

THE STATE OF WEST VIRGINIA.

Before Levi Cooke, Esq., Commissioner.

Defendant's Testimony.

Morning Session, Thursday, December 16, 1920.

2247 Thursday Morning, December 16, 1920.

And now, the hour of 10:00, a. m., having arrived, hearing was resumed pursuant to adjournment.

H. E. NEASE resumes the stand.

Direct examination (continued).

(By Mr. Steptoe:)

Q. At our adjournment yesterday afternoon, I started to ask you relative to the distribution of their net supply by the seven companies. Have you a statement predicated upon the records of the Public Service Commission and other records which you have re-

ferred to which will show the distribution within West Virginia by these 7 companies and the amounts exported?

A. I have.

Q. The statement which you now hand me is, if I correctly understand it, a summary showing the distribution of their net supply of West Virginia natural gas by these 7 companies combined, for the years 1919 back to 1911, inclusive, followed by separate statements showing such distribution separately for each year from 1919 back to 1911, inclusive for each of the 7 companies. Is that correct?

A. It is.

Q. You show under the general heading of amounts furnished to West Virginia consumers four separate headings giving the amount of domestic service, amount furnished for industrial service,
2248 the amount sold to local utilities, and the fouth heading giving a total of those three?

A. Yes.

Q. And then under another heading you show the amount transported or sold for transportation to other states?

A. Yes, sir.

Q. That is on the summary, is it not?

A. It is.

Q. And then as to the annual statements, 1919 back to 1911, you show those same headings for each of the 7 companies separately?

A. Yes.

Mr. Steptoe: Will you now file this statement, marking the same West Virginia Exhibit No. 19, and the following statements for the several year- as West Virginia Exhibits Nos. 19-A to 19-I.

Q. In a former exhibit filed by you, West Virginia Exhibit No. 16, you ascertained the net supply for public service of each of the 7 companies and in the exhibit you had a heading of "interchanges." Will you now explain a little more fully than you did at that time, just what you put under the heading of interchanges?

A. I deducted from the gross amount of gas handled by each of the respective companies the sales to one or more of the 7 companies.

Q. I will illustrate by a specific example, the United Fuel Gas Company's total production and purchases is, as I recall, approximately 51,000,000,000 Cu. Ft. It has sales to a number of
2249 companies, including among others, the Columbia Gas & Electric Company. Would the amount sold to the Columbia Gas & Electric Company be put under the heading of "interchanges"?

A. It would be.

Q. And then it would be deducted from the net public supply or net supply for public service of the United Fuel Company?

A. No. I would deduct it from the total gas handled by the United Fuel Company to get the total net supply of the United Fuel Company.

Q. I want to know where the amount sold to the Columbia Company would appear, would it be under the net supply of the United Fuel Company or the Columbia Gas & Electric Company?

A. The Columbia Gas & Electric Company.

Q. So that on your exhibit, West Virginia Exhibit No. 16, in as-

certaining the net supply for public service of the United Fuel & Gas Company at 29,330,325 in cu. ft., you have taken off the amount sold to the Columbia Gas & Electric and to the other 7 companies by the United Fuel?

A. Yes.

Q. And the amounts so sold by the United Fuel to the others of the 7 companies, appear in the net supply for public service of the purchasing companies?

A. Yes.

2250 Q. Does the total sold thus by one of the 7 companies to the others appear in the net supply for public service; for example, where the Hope Company sells to the Manufacturers Light & Heat Company, does the total amount of that sale appear in the Manufacturers Company's net supply for public service?

A. Well, in a way. It becomes a part of the total general supply of the Manufacturers Light & Heat. Of course, naturally, some part becomes a part of the available supply for pipe use.

Q. Well, it is a part of their supply acquired in West Virginia by purchase or production and shown in their net public supply?

A. Yes.

Q. What I am trying to elicit and trying to show about your exhibit is that where one of the 7 companies has sold to the other, the amount of that sale appears in the net supply for public service of the purchasing company instead of the selling company.

A. Yes, that is right.

Q. On yesterday afternoon you stated that the South Penn Oil Company was selling a part of its gas production to the Fayette County Gas Company. Do you desire to make any correction in that statement?

A. Yes, I was in error in that statement.

Q. What are the facts about the South Penn Company's production?

2251 A. The South Penn Company sells no gas to the Fayette County Gas Company. It sells practically all of its gas production to the Hope Gas Company and the United Fuel Gas Company.

Q. In what section does it sell to the Hope and in what section to the United Fuel, if there is any distinction?

A. It sells to the United Fuel Company in what might be termed the southern gas fields, the gas fields of southern West Virginia, where the two companies operate in the same vicinities, and the same would be true as to the Hope where the Hope operates; that is, in the northern section, the north central section of the state.

Q. Do the records available to you, and the Public Service Commission disclose the number of independent producers who sell their supply or part of their supply to the 7 companies?

A. They do.

Q. Can you give us a statement of how many independent producers are selling gas to the 7 companies?

A. The records for December, 1919, disclose that 212 such producers were selling to the 7 companies.

Q. Do the same records disclose where and when the 7 companies

purchased wells outright, the number of wells bought by them? I do not mean for you to give the exact figure, Mr. Nease, but to state whether or not wells are sold to the said companies by independent producers, to any extent?

A. The statements do not disclose that information; that is,
2252 the monthly statement. But the annual statements submitted to the Board of Public Works would show the total number of wells purchased from all sources.

Q. Are there many wells purchased by the 7 companies as disclosed by those reports?

A. Well, purchased and transferred together, there would be a good many.

Q. Now with reference to the independent producers, as a general rule, do they have pipe lines for the transportation of their gas to market, or do they have a market?

A. They do not have, as a general rule, either markets or pipe lines to markets, except such market as they have with the gas utilities to whom they sell.

Q. Connections with them?

A. Yes.

Q. What knowledge have you as to the financial condition of the general run of local utilities?

A. Well, naturally, from my studies of the respective utilities during the 15 years about which I have before testified, I have been very closely identified with the natural gas industry, and have been in very close touch with such utilities and it has been my observation that the local utilities have not been successful financially.

Q. Have they a large capitalization, or large financial resources at their command?

A. They have not.

Q. Generally, local capital and local enterprise?

A. Almost always.

2253 Q. Have any of them failed or gone out of business?

A. Yes, quite a good many during the last 15 years.

Q. Do their reports, as made to the Board of Public Works, and other reports made, disclose any great amount of territory?

A. No, they do not have any great amount of territory. The great majority of them have very little territory, a great many of them no territory.

Q. Have many of them pipe lines or pump stations?

A. No.

Q. How is their gas marketed or transmitted to marketing lines?

A. I expect I should call for that statement. You mean when you speak of pipe lines, main pipe lines from gas fields? Of course, they have developed systems.

Q. I refer to main lines extending out into the fields.

A. No, very few of them have such lines.

Q. And how about pump stations?

A. They do not have pump stations except in a very few cases.

Q. How is their gas distributed, by what power?

A. The natural rock pressure of the gas wells.

Q. Do any of the 7 companies transport gas for others?

A. They do not.

Q. Do their returns disclose that fact?

A. They do, and as a matter of common knowledge I know that too.

2254 Q. How do they exchange gas? I mean by that, do any of the companies take gas out in the field from an owner and deliver to that owner at a different point along the lines of the company an amount in exchange?

A. They do not except to a very limited extent. Some of the larger companies follow that practice.

Q. Explain what you mean by some of the larger companies following that practice?

A. Well, the Reserve Gas Company handles through its lines some gas for the Hope Gas Company and there is now an arrangement between the Pittsburgh & West Virginia Gas Company and the Eastern Oil Company group, by which the Pittsburgh & West Virginia exchanges some gas in the territory where the Eastern Oil Company group companies are operating for some isolated production that the Eastern Oil Company group has from one well in Gilmer County, that is a new arrangement. They are now building a pipe line to that well of the Eastern Oil Company in Gilmer County. That is the only case that I know of in which such practices are had.

Q. Are you able to give us a statement of all the wells producing gas in the State of West Virginia?

A. I can furnish such a statement.

Q. Can you give us the number owned by the 7 companies and the percentage of the 7 companies with reference to all of the wells?

A. I can.

Q. Will you give us that statement?

2255 Answer.—

Statement Showing Productive Gas Wells within West Virginia, 1910-1918.

Dec. 31—	Total all producers.	Hope Nat. Gas Co., Pgh. & W. Va. Gas Co., United Fuel Gas Co., Reserve Gas Co., Car. Nat. Gas Co., Col. Gas & El. Co., Mfg. L. & H. Co.	Percentage of total owned by the seven companies.
1918	9,687	7,086	73.2%
1917	9,329	6,763	72.5%
1916	8,542	6,161	72.1%
1915	7,718	5,458	70.7%
1914	7,194	5,037	70.0%
1913	6,534	4,578	70.1%
1912	5,604	3,897	69.6%
1911	4,790	3,354	70.0%
1910	4,052	2,890	71.3%

2256 Q. You show as of December 31st, in each year, 1918, back to, and including 1910, under separate headings, the total of wells by all producers, the total by the 7 companies and the percentage of total owned by the 7 companies. From what sources did you ascertain the total number of wells by all producers?

A. From the United States Geological Survey Reports.

Q. Why have you not included the year 1919?

A. For the reason that such reports were not available.

Q. From what sources have you ascertained the number of wells of the 7 companies?

A. From the reports made to the various State Departments by the companies.

Q. The percentage, of course, is your own work?

A. A matter of computation.

Q. For the year 1918 you give the total for all producers as 9,687 wells, the total of the 7 companies as 7,086 wells. Please state whether or not the figure 7,086 includes any wells owned by other producers, from which the 7 companies purchased gas?

A. It does not.

Q. Does it include only the wells drilled by the 7 companies?

A. Only the wells owned or drilled by the 7 companies themselves, it might include wells they had purchased.

Q. It would include wells they had purchased?

A. Yes.

2257 Q. It includes, however, only such wells as they own outright?

A. Yes.

Q. Are you able to give us a statement that will show for the years 1919 back to 1910, inclusive, the number of productive gas wells in the State of West Virginia drilled or purchased by the 7 companies, and showing also the dry holes drilled and the number of wells abandoned?

A. I can give you such information.

Q. Please now, give us that statement in the record.

2258 Answer.—

Summary of Natural Gas Wells Drilled within West Virginia by th Hope Natural Gas Company, United Fuel Gas Company, Pittsburgh and West Virginia Gas Company, Reserve Gas Company, Carnegie Natural Gas Company, Columbia Gas and Electric Company, and Manufacturers Light and Heat Company.

1910-1919.

	Productive Jan. 1st.	Gas.	Dry.	Total.	Abandoned.	Purchased less sold and transferred.	Productive Dec. 31.
1919.....	7,086	390	97	487	257	1	7,219
1918.....	6,763	481	112	593	133	24	7,086
1917.....	6,161	719	123	842	200	83	6,763
1916.....	5,458	708	107	815	106	101	6,161
1915.....	5,038	495	53	548	145	70	5,458
1914.....	4,581	572	82	654	154	39	5,038
1913.....	3,899	684	68	752	48	46	4,581
1912.....	3,361	554	79	633	73	57	3,899
1911.....	2,890	457	56	513	68	82	3,361
1910.....	2,219	807	42	849	136	...	2,890

2259 Q. In your statement you show the total number of productive as of January 1st, 1919, 7,086 and the number of productive December 31st, as 7,219 wells?

A. Yes.

Q. As I understand that variation, it is the number drilled during the year, less dry holes and abandoned wells and plus those purchased?

A. There should be taken into consideration also the gas wells sold and transferred.

Q. But the number 7,219 wells shows the net number owned by the 7 companies productive as of December 31st, 1919?

A. Yes. The difference between those held January 1st and December 31st, would be the net gain in wells for the year.

Q. Under the heading "Gas" you have for the year 1919, the number 390, what do you mean by the heading "Gas"?

A. That is the total number of productive gas wells the 7 companies drilled during the year.

Q. As distinguished from the following heading "Dry" wells?

A. Yes.

Q. And the heading "Total" shows the entire number of wells drilled and embraces the 390 productive wells, plus the 97 dry wells?

A. Yes, that would be the total number of wells drilled productive and dry.

2260 Q. That same explanation goes through each year back to 1910?

A. Yes.

Q. What do the returns of the 7 companies show with respect to gas imported into the State? Do any of the companies report gas imported?

A. In the latter part of 1919, the last four months of the year, the Hope Natural Gas Company showed importations, with that exception no other companies showed importation.

Q. What does the Manufacturers Light & Heat Company report show on the subject of imports?

A. Well, they don't show any importations in their reports.

Q. Do they give any explanation in that connection?

A. Yes, they do explain that they do bring some gas into the State, but are unable to show the quantity and for that reason make no attempt to show it.

Q. You mean they make no effort to show the quantity imported?

A. Yes.

Q. What explanation is there, if any, as to the one occasion when the Hope Natural Gas Company reported imports?

A. That was due to the development in the McKeesport district field. The Peoples' Natural Gas Company's lines pushed the gas back into the Hope lines, into West Virginia during those four months because of greater pressure in the Peoples lines.

2261 Q. Is that the explanation given by the Hope Natural Gas Company, or is that a matter of your own knowledge?

A. Well, I got that information from the Chief Inspector of the

Public Service Commission. I am not advised as to whether or not the Hope Company officially reported that, except the Chief Inspector so stated.

Q. Is that the only occasion on which the Hope Natural Gas Company has reported any imports during the time it has made its returns to the Board of Public Works?

A. Yes.

Q. Is there a requirement by the Public Service Commission, or by the Board of Public Works in their prescribed forms, or by either of them, that these public utility companies shall report the amount of gas imported?

A. Yes.

Q. And if I correctly understand you, on all former occasions and all subsequent occasions, except the instance you have given, the Hope Natural Gas Company has reported no imports?

A. Yes.

Q. Now, how about the Carnegie Natural Gas Company? Has it ever reported any gas imported into the State?

A. It has not.

Q. How about the Reserve Gas Company?

A. It has not.

Q. How about the Pittsburgh & West Virginia Gas Company?

2262 A. It has not.

Q. How about the United Fuel Gas Company and Columbia Gas & Electric?

A. The Columbia Gas & Electric Company has never reported any imports. In former years the United Fuel reported that they may have imported a small quantity into the State.

Q. Did it report the amounts?

A. Well, they would give the approximate amounts but it was so small as to be negligible.

Q. Do I understand that the United Fuel has not reported any imports in the last few years?

A. They have not.

Q. In all of those returns they report none as imported in the instances you have mentioned? What I mean to elicit, Mr. Nease, is whether they simply make no return or whether they state that there are, or have been, no imports in the instances you have mentioned?

A. I would have to refer, I expect, to the report to answer that question. In some instances, some statements would be left a blank. I do not just recall as to that particular question in the reports.

Q. Ordinarily, they do report "None"?

A. Ordinarily, they would make no explanation; ordinarily, of course, they would say none; and that is the situation, I am sure, as to practically all the companies mentioned.

Q. With the exception of the Manufacturers Light & Heat?

2263 A. Yes, I explained that.

Q. On the list which you have heretofore given us of the incorporated cities and towns in West Virginia that are being served

with natural gas you included all of the towns served whether by the 7 companies or local utilities?

A. Yes.

Q. Are there many of the larger cities in West Virginia that are served by local utilities?

A. Yes, quite a good many of them.

Q. Can you mention some of the more important ones?

A. Morgantown, Grafton—no, not Grafton except to a small extent; Fairmont, Clarksburg, Weston. Those would be the principal cities in the State that are served by local utilities.

Q. How about Shinnston, Lumberport and Bridgeport in Harrison County?

A. They are served by local utilities.

Q. And Salem also?

A. Salem is served by a local utility.

Q. How about Pennsboro, Harrisville and Cairo?

A. They are all served by local utilities and there are a great many cities and towns of that class that are served by local utilities, even in the southern section of the State which I did not enumerate in giving the principal cities.

Q. In what county are located Clarksburg, Shinnston, Lumberport, Bridgeport and Salem?

A. Harrison County.

2264 Q. None of those towns are served by any of the 7 companies?

A. No.

Q. Can you tell us how many of the 7 companies are engaged in that county and have production and pipe lines?

A. Five of the 7 companies operate in that county.

Q. What companies are those?

A. Hope Natural Gas Company, Reserve Gas Company, Carnegie Natural Gas Company, Manufacturers Light & Heat Company and Pittsburgh & West Virginia Gas Company.

Q. Can you give me the total acreage of that county?

A. I can, the total acreage is 266,240 acres.

Q. What is the total acreage of gas territory held by those 5 companies in Harrison County?

A. 171,996.

Q. What is the total number of gas wells producing gas in that county and owned by those 5 companies you have mentioned?

A. 1674.

Q. Can you give me the number of independent producers of gas in that county who are selling their production to those 5 companies and the number of wells from which those producers are so selling?

A. There were 57 independent producers owning 161 wells, selling to the 5 companies mentioned.

Q. What is the total number of miles of pipe line located in that county and owned and operated by those 5 companies?

2265 A. 1,157 miles.

Q. What is the size of that?

A. Two inches and larger.

Q. Are any of those 5 companies selling gas to any of the local utilities furnishing the towns of Clarksburg, Salem, Lumberport, Bridgeport and Shinnston, which you have mentioned?

A. Some of the Companies furnish gas to local utilities supplying some of the towns mentioned.

Q. Well, be more specific, what company, if any, is selling gas to the local utility supplying Clarksburg?

A. The Hope Natural Gas Company.

Q. Do you know under what contract or arrangements?

A. No, I don't.

Q. Is any one of those 5 companies selling to the local utility supplying Bridgeport?

A. To the best of my knowledge, no.

Q. How about Salem?

A. I don't think any of the local utilities in Harrison County are served by any of the 7 companies.

Q. What is the total number of domestic consumers in Harrison County served by those 5 companies?

A. Between 800 and 900.

Q. About what amount?

A. Of gas is served to such domestic consumers?

Q. Yes, I mean now furnished directly?

A. A little more than 100,000 in cubic feet per year.

2266 Q. Do you know of any industries in Harrison County being supplied with natural gas by those 5 companies?

A. I do not.

Q. Do their reports disclose any?

A. They do not.

Q. Is not the Pittsburgh and West Virginia Gas Company in the town of Shinnston?

A. It is to a limited extent.

Q. Do you know about how many consumers it supplies there?

A. Under a hundred.

Q. The other consumers, domestic and industrial, in that town are served by local utilities?

A. Yes.

Q. How about Lewis County? How many of the 7 companies, and which ones, are producing and have pipe lines in that county?

A. The following 4 companies: Hope Natural Gas Company, Reserve Gas Company, Carnegie Natural Gas Company and Pittsburgh and West Virginia Gas Company.

Q. Can you give us the area of Lewis County in acres?

A. Yes, 251,520 acres.

Q. And the population is what?

A. 20,455 in 1920.

Q. What is the total amount of gas territory held by those 4 companies you have mentioned operating in that county?

A. 176,739 acres.

2267 Q. How many producing wells in that county are owned by those 4 companies?

A. 1,106.

Q. If they have purchased from independent producers in that county, how many of those independent producers, and how many wells?

A. They purchased from 16 independent producers, owning 66 wells.

Q. And what is the mileage of pipe line owned by those 4 companies, 2 inches and over, located in Lewis County?

A. 795 miles.

Q. Give the assessed value of the property of those 4 companies in that county.

A. $10,630,629 for the taxing year of 1920.

Q. By the way, I neglected to ask you in connection with Harrison County, the assessed value of the property of the 5 companies operating and producing in that county, how much is that?

A. For the taxing year of 1920, $13,915,199.

Q. Getting back to Lewis County, do any of those 4 companies you have mentioned as operating in that county, supply domestic consumers there?

A. To a limited extent.

Q. Can you give us approximately the number of domestic consumers?

A. One thousand to 1,200.

2268 Q. What company furnishes those, and where?

A. The Hope Natural Gas Company, the Reserve Gas Company and the Pittsburgh and West Virginia Gas Company each have some domestic consumers. They supply principally rural consumers, rural communities, no incorporated cities or towns are supplied by any of the 4 companies.

Q. Do any of the 4 companies supply any industrial consumers in Lewis County?

A. To a very limited extent they do.

Q. Now, do any of them furnish local utilities in Lewis County?

A. Yes, the Hope Natural Gas Company furnishes some gas to the Keener's Oil, Natural Gas & Fuel Company supplying Weston.

Q. That was for the year 1919, was it not?

A. Yes, the year 1919.

Q. Do you know whether or not the Hope Company is selling or supplying any gas to the Keener's Oil, Natural Gas & Fuel Company?

A. My information is that they are not, but I am not definitely advised as to that. I could give you a definite answer, I believe, by referring to the monthly reports.

Q. Will you please get us that information during the noon hour?

A. I will.

Q. In the course of your going through the financial condition of the 7 companies, in your various investigations, did you be-

2269 come acquainted with the history of those companies? and their development in the way of consolidation of companies?

A. I have considerable knowledge along that line.

Q. Did you ever investigate and ascertain that information with

reference to the Manufacturers Light & Heat Company of Pennsylvania?

A. I did.

Q. Does the company consist of consolidation of other public utilities in the gas business to any extent?

A. It does.

Q. Can you give us the various companies consolidated in that parent company, the Manufacturers Light & Heat Company of Pennsylvania?

A. I can.

Q. I wish you would give us the several companies in Pennsylvania which entered into that consolidation.

A. The Manufacturers Light & Heat Company was incorporated originally as the Manufacturers Natural Gas Company, in 1885, a Pennsylvania corporation doing business in Pennsylvania. It was reorganized in 1889 under the name of the Manufacturers Light & Heat Company, a Pennsylvania corporation. This organization was a consolidation of the original company; that is, the Manufacturers Natural Gas Company, with the Peoples Light & Heat Company and the Belleville and Glenville Natural Gas Company. In 1902 the West Virginia constituent companies were absorbed or taken over by the company. Those are the Tri-State Gas Company, the
2270 Wheeling Natural Gas Company, the Ohio Valley Gas Company, the Wetzel Gas Company, Cameron Gas & Oil Company, New Cumberland Water & Gas Company. The Manufacturers Gas Company operating in Wheeling was also absorbed by the company. In 1903 the Manufacturers Light & Heat Company merged with the Fort Pitt Gas Company and others of the Pennsylvania Corporations. The companies making up this merger were the Manufacturers Light & Heat Company of Pennsylvania, the Fort Pitt Gas Company, the Relief Gas Company, the Mutual Benefit Gas Company, the Citizens Natural Gas Company of Waynesboro, and Waynesboro Natural Gas Company, the Cannonsburg Light & Power Company. All of these companies were, with the exception of the Manufacturers Light & Heat Company of Pennsylvania, Pennsylvania corporations.

Q. Serving consumers in Pennsylvania?

A. Exclusively. Now since, in recent years, the Manufacturers Light & Heat Company, to my knowledge, has absorbed the Middlebourne Gas Company, a West Virginia corporation, operating in Tyler County.

Q. Tyler County is in West Virginia?

A. It is. I might state that in the merger in which the Fort Pitt and the other companies were taken over, the Fort Pitt Gas Company was made up of numerous smaller companies.

Q. Can you give us the constituent companies which made up the Fort Pitt Gas Company?

A. I can.

Q. What were they?

2271 A. They were the New Castle Gas Company, Rochester Light & Heat Company, The Ohio Valley Gas Company, and the Independent Natural Gas Company of Sewickley.

Q. Are those Pennsylvania corporations serving the consumers in Pennsylvania?

A. They were—possibly reaching over to a few consumers in Ohio.

Q. What do you know about the Pittsburgh and West Virginia Gas Company as taking over any local utilities in West Virginia?

A. The Pittsburgh and West Virginia Gas Company took over the properties of the Fairmont Natural Gas Company, operating at Fairmont and in the vicinity.

Q. As a matter of fact, the Pittsburgh and West Virginia Gas Company is a changed name of the old Fairmont and Grafton Gas Company?

A. It is.

Q. Does the Pittsburgh and West Virginia Gas Company now have the properties of the Philadelphia Company of West Virginia, do you know?

A. Yes, they operate those properties under lease.

Q. Was the Philadelphia Company of West Virginia a West Virginia corporation?

A. It was.

Q. What sections of West Virginia were served by the former Fairmont and Grafton Gas Company?

2272 A. Fairmont, Marion County, and in later years Grafton, Taylor County and vicinity.

Q. And smaller communities, I judge?

A. Yes.

Q. Do you know whether that company was at its inception owned by local people in West Virginia or not?

A. I don't believe I could definitely answer that.

Q. It was a West Virginia corporation, was it not?

A. It was a West Virginia corporation. My impression is that it was developed by local people, but I would have to refresh my memory as to that.

Q. Do you know whether the control of the company passed into the hands of any other company, and if so, what other company?

A. It passed into the hands of the Pittsburgh and West Virginia Gas Company in 1913.

Q. Judge Reed in his testimony at Pittsburgh stated incidentally that the capital stock of the Pittsburgh and West Virginia Gas Company was of no value. In that connection, do you know where the Pittsburgh and West Virginia Gas Company markets its gas?

A. I do.

Q. Well, to whom?

A. Markets a small part of it within the State of West Virginia. The greater part of the entire production of the company is marketed to the Equitable Gas Company at the West Virginia state line.

2273 Q. Is the Equitable Gas Company owned or controlled by the same interests?

A. It is.

Q. What is the controlling company?

A. The Philadelphia Company is the controlling company.

Q. Now, under what arrangement or what place is that gas marketed, by the Pittsburgh and West Virginia Gas Company to the Equitable Company?

A. It has been the custom for the producing company in West Virginia, which at this time is the Pittsburgh and West Virginia Gas Company, to sell the gas at the state line to the producing company, which at this time is the Equitable Company, at the cost of production within West Virginia to the producing company.

Q. Both companies being owned and controlled by the parent companies, the Philadelphia Company of Pennsylvania?

A. Yes.

Q. What can you tell us with reference to the development of the United Fuel & Gas Company, with reference to constituent companies especially?

A. The United Fuel Company was first incorporated in 1903.

Q. Right there, suppose you tell us what its holdings were, its production and its market?

2274 A. Well, up until 1908 the company had no market, it was merely a developing—what you might term, a developing company, owning leases and having some production, but not then reaching any market.

Q. Can you give us an idea of its leasehold territory in West Virginia at that time?

A. It was very limited at that time, it did not have any extensive holdings prior to 1908. In 1909 it acquired the properties of the United States Natural Gas Company. I might state that I am refreshing my memory from a report which I have made to the Public Service Commission in connection with the United Fuel Gas Company rate case. The United Fuel Gas Company has acquired no other—the property of no other natural gas utility companies. The United States Natural Gas Company, however, the company which it acquired, as I have stated, was made up of numerous smaller natural gas companies, including the Triple State Natural Gas Company, The Kanawha Natural Gas, Light & Fuel Company, The Charleston Natural Gas Company and some of the properties of the Kanawha Gas Company. The United Fuel Gas Company was reorganized along about the time it took over the properties of the United States Natural Gas Company and its stock very greatly increased. At this time it also took over from the Hope Natural Gas Company a great block of leases, south of the little Kanawha River. I think that about covers the development of the Company.

2275 Q. At one time there was a transfer by the United Fuel Company to the Kermit Gas Company, and then back from the Kermit to the United Fuel, was there not?

A. The Kermit was the original United Fuel Company, it was organized as The Kermit Gas Company. The United Fuel succeeded the Kermit Gas Company.

Q. Are you quite sure of that?

A. Well, that is my understanding.

Q. Will you look at that from the public records available to you and report to us again in the afternoon session?

A. Yes, I will.

Q. Now, with reference to the properties that were in the hands of the United States Natural Gas Company and went to make it up, where was the Triple State Gas Company doing business, and where were its holdings?

A. The Triple State supplied Huntington, and Kenova, the towns in that section of the State.

Q. And its gas territory was located where?

A. Its gas territory was in Lincoln County primarily.

Q. What about the Kanawha Gas Company?

A. The Kanawha Gas Company was a company having a pipe line into Charleston from the Roane County field.

Q. And the Charleston Natural Gas Company?

A. The Charleston Natural Gas had some properties in the vicinity of Charleston, and also in Roane County, supplying Spencer.

Q. Are you able to state whether the United States Natural
2276 Gas Company, The Triple State Gas Company, The Kanawha Gas Company and Charleston Gas Company, or any of them, were chartered under the laws of West Virginia?

A. They all were.

Q. You spoke of the transferring of a large block of territory from the Hope Company to the United Fuel along about 1909. Will you tell us a little more fully about that transaction, and what was the nature of the re-organization under which that property was acquired by the United Fuel?

A. Well, it was a matter of general information at that time——

Mr. Weil: I object to this testimony on a matter of general information. The witness has made no special investigation, nor has he any information on the subject that would be legal evidence.

Mr. Steptoe: You need not answer, Mr. Nease, as to matters of general information.

A. (continued). As a matter of fact, I could not say that the United Fuel did take over the leases formerly held by the Hope Company south of the little Kanawha River in the State of West Virginia.

Q. Do you know of any agreement between the United Fuel Gas Company, on the one hand, and the Hope Gas Company on the other, or between companies controlling those companies, with reference to their transfer of territory?

2277 A. I do not have definite knowledge of such a contract or agreement.

Q. Was the Standard Oil Company of New Jersey, at any time interested in the United Fuel Gas Company?

A. Yes.

Q. That was when?

A. Well, up until 1910 the majority of the stock of the United Fuel Company was held by the Standard Oil Company of New Jersey.

Q. What became of that majority interest?

A. The Columbia Gas & Electric Company had certain holdings in the East Ohio Gas Company. These holdings were traded or exchanged for the Standard Oil holdings in the United Fuel Gas Company, passing from the Standard Oil Company to the Columbia Gas & Electric Company.

Q. Do you know the date of that transaction?

A. Yes, I can give you that date, that was June, 1915.

Q. Then your answer, a few moments ago, was not strictly accurate when you said that the Standard Oil Company of New Jersey held the majority interest up to the year 1910. What you mean is that they held it until the date of this sale, in 1915, is it not?

A. Yes, that would be true.

Q. Who was the president of the United Fuel Gas Company at that time?

A. President of the United Fuel Gas Company?

Q. Yes, sir, in 1915 ?

2278 A. I would not be able to state, without refreshing my memory.

Q. Do you know whether or not, during the period 1909 to 1915, Mr. A. C. Bedford of New York was at any time President of that Company?

A. Not without refreshing my memory. He held the stock of the company for the Standard Oil Company of New Jersey.

Q. But you do not know what official position he held in the United Fuel?

A. No, not without refreshing my memory, my recollection is, he was vice-president but I could not tell you definitely as to that.

Q. Do I understand you, that the Columbia Gas & Electric Company was interested in the East Ohio Gas Company?

A. It was, yes, quite extensively interested.

Q. That interest was transferred by the Columbia Gas & Electric Company to the Standard Oil Company of New Jersey or some one for them in the transaction that you have just referred to?

A. Yes.

Q. Which took place in June, 1915?

A. Yes.

Q. Do you happen to know whether or not there was any transfer of gas territory by the United Fuel Gas Company to the Hope Company, situated north of the Kanawha River?

A. I so stated that there was.

Q. You have no definite personal knowledge as to that?

2279 A. No, I do not have. I didn't see the agreement, as I stated before.

Q. Well do you know whether or not there was, or is an agreement on the subject between the United Fuel Gas Company and the Hope Natural Gas Company or the interests controlling those two companies, with reference to the territory north of the Kanawha River, and the territory south of the Kanawha River?

A. I understand there is such an agreement.

Q. That is the extent of your information?

A. Yes.

Q. Do you mean the big Kanawha River or the little Kanawha River?

A. The little Kanawha River.

Q. Some point was made in the complainant's testimony touching the difficulty of making connection between the larger companies and the local utilities. Are you a practical operator to the extent of being able to testify as to that, whether or not it is feasible?

A. I know it is done quite extensively. I have that much practical knowledge of the situation.

Q. Well, can you give us instances of such connections by the several companies with local utilities? I will ask you as to whether or not the Carnegie Natural Gas Company has any physical connection with any local utility?

A. It has.

Q. Well, be a little more specific.

2280 A. It has a connection with the distributing company at Morgantown. Until recently it was known as the property of the West Virginia Traction & Electric Company, the name has recently been changed, I do not just recall what the company is known by now.

Q. Do I understand that the Carnegie Company is selling a supply of gas for Morgantown to the local utility you mentioned?

A. Yes.

Q. Now, to what local utilities does the Pittsburgh and West Virginia Gas Company sell gas?

A. I could answer that more definitely if I had a copy of the report here. The Monongahela Valley Traction Company and the Glenville Natural Gas Company.

Q. What city or community is served by the Monongahela Valley Traction Company?

A. Fairmont, Marion County and vicinity.

Q. And what community by the Glenville Natural Gas Company?

A. That is Glenville, the town of Glenville, in Gilmer County.

A recess was here taken until 1:30 o'clock p. m.

2281 Supreme Court of the United States, October Term, 1919.

THE COMMONWEALTH OF PENNSYLVANIA, Complainant,

vs.

THE STATE OF WEST VIRGINIA.

THE STATE OF OHIO, Complainant,

vs.

THE STATE OF WEST VIRGINIA.

Before Levi Cooke, Esq., Commissioner.

Afternoon Session, Thursday, December 16, 1920.

Defendant's Testimony.

2282 Thursday Afternoon, December 16, 1920.

And now, the hour of 1.30 o'clock p. m. having arrived, hearing resumed, pursuant to adjournment.

H. E. NEASE resumes the stand.

Direct examination (continued).

Mr. Steptoe:

Q. Before lunch we were on the subject of the local utilities to which the seven companies sell natural gas. Will you now tell me to what local utilities in West Virginia the Hope Natural Gas Company sells gas, together with the places served by the particular local utility so purchasing?

A. The Clarksburg Light and Heat Company, serving Clarksburg and vicinity; the Light, Fuel and Power Company, serving Sutton, Braxton County, and, indirectly, Gassaway, through the Gassaway Gas Company, and various smaller towns in Braxton County.

Q. Does it not also serve Burnsville?

A. Yes, Burnsville and another litle town or two but I do not just recall the names of them. The Keener's Oil, Natural Gas and Fuel Company, serving Weston, Lewis County. There is some question as to whether that service is now being rendered, which I will be able to testify more definitely within the next few minutes. And the Comet Oil and Gas Company, which has a few consumers in Grafton, and serves Pruntytown and possibly another small town or two in Taylor County; Flemington, I think. The West

2283 Virginia Heat and Light Company serves the towns of Ellenboro, Pennsboro and Cairo in Ritchie County; the Monongahela Valley Traction Company, which serves Fairmont and vicinity. That seems to be the extent of its service to local utilities.

Q. Do you know the nature of the service or supply of the Hope Natural Gas Company for the Monongahela Valley Traction Company? That is to say, whether it is a regular service for the year round, or an emergency service or casual?

A. I am not in a position to state as to that. I could ascertain the nature of the service furnished for any period of time you might want by months.

Q. Can you tell me more in particular about the supply from the Hope Natural Gas Company to the Comet Oil and Gas Company? Do you know where that supply is furnished?

A. No, I do not. I would have to make further investigation.

Q. Now, take the United Fuel Gas Company: to what local utilities does it sell natural gas in West Virginia?

A. It seems to have furnished the Charleston-Dunbar Natural Gas Company with gas over the year 1919.

Q. What communities are furnished by the Charleston-Dunbar Natural Gas Company?

A. A small portion of Charleston; the incorporated cities of Saint Albans and South Charleston and the towns of Dunbar, Spring Hill and Institute—all in Kanawha County.

2284 Q. Do you know of any local utilities supplied by the Columbia Gas and Electric Company?

A. I do not.

Q. Their report seems to refer to sales to the Martha Gas Company. Do you know anything about that?

A. No, I do not know anything about that.

Q. What about the Reserve Gas Company: does it sell to any local utilities?

A. It does not.

Q. At an earlier stage of the proceedings you gave us a list of the natural gas utilities operated in the State of West Virginia. Let me know if any local utilities on that list sell and deliver gas to the seven companies?

A. They do.

Q. That is, those operating within the state?

A. Yes.

Q. Will you look over that list and tell us what utilities sell to one or more of the seven companies?

A. The Pittsburgh and West Virginia Gas Company purchased gas during the year 1919 from the Clarksburg Light and Heat Company. The Hope purchased gas from the,—from,—Godfrey L. Cabot and the Bridgeport Gas Company. The United Fuel Gas Company purchased gas from the Belvard Oil and Gas Company and Central Wayne Oil and Gas Company, which properties have been absorbed by the Southern West Virginia Oil & Gas Corporation. It also purchased from the Charleston-Dunbar Natural Gas Company and the Owens Bottle Machine Company.

2285 Q. You mean the last two named sell to the United Fuel Gas Company?

A. Yes.

Q. Can you tell me whether or not the Imperial Oil and Gas

Products Company, which is listed by you as one of the local utilities, sells to the Carnegie Natural Gas Company?

A. It does.

Q. It should have been included in your statement?

A. Yes. I overlooked that one.

Q. I believe you have heretofore testified touching sales and deliveries by the South Penn Oil Company and the Ohio Fuel Oil Company to one or more of the seven companies?

A. Yes, sir.

Q. Do all of the seven companies or any of them produce or have pipe lines in every county in which they hold acreage?

A. They do not.

Q. Could you give us as to each of the seven companies the several Counties in West Virginia in which that particular company produces gas or has pipe lines or serves consumers?

A. The Manufacturers Light and Heat Company has such service in Doddridge, Harrison, Marion Monongalia, Tyler, and Wetzel counties. The Reserve Gas Company in Harrison, Lewis, Ritchie, Wood, Pleasants, and Doddridge counties.

Q. In your previous answer with respect to the counties in which the Manufacturers Light and Heat Company produces, has pipe lines or serves consumers have you not omitted the Pan

2286 Handle counties?

A. Yes, I have. I have not included the counties of Marshall, Ohio, Brooke, and Hancock.

Q. Now, as to the Pittsburgh and West Virginia Gas Company?

A. The Pittsburgh and West Virginia Gas Company has such service in the counties of Braxton, Doddridge, Gilmer, Harrison, Lewis, Marion, Monongalia, Ritchie, Taylor, Tyler, and Wetzel.

Q. You say "has such service." Do you mean by that produces, has pipe lines or serves consumers?

A. Yes.

Q. It has one or more or all of those things?

A. Yes.

Q. With respect to the Carnegie Natural Gas Company, in how many counties and in what counties does it produce, have pipe lines or serve consumers?

A. In Braxton, Doddridge, Gilmer, Harrison, Lewis, Taylor, Tyler, Marion, Monongalia, Ritchie, and Wetzel.

Q. In how many counties with respect to the Hope Natural Gas Company and which counties?

A. The counties of Barbour, Braxton, Calhoun, Doddridge, Gilmer, Harrison, Lewis, Marion, Marshall, Monongalia, Pleasants, Ritchie, Rome, Tyler, Upshur, Wetzel, and Wirt. Wood and Taylor should also be included.

Q. How about the Columbia Gas and Electric Company?

A. The Columbia Gas and Electric Company covers the

2287 counties of Cabell, Lincoln, Putnam, and Wayne.

Q. And lastly, how about the United Fuel Gas Company?

A. Boone, Cabell, Calhoun, Clay, Gilmer, Jackson, Kanawha, Lincoln, Logan, Mingo, Putnam, Poane, and Wayne counties.

Q. Before our adjournment at lunch time I asked you to investigate further with reference to the connection between the Kermit Gas Company and the United Fuel Gas Company. Have you anything further to say on that matter now?

A. United Fuel Gas Company—the present United Fuel Gas Company—was incorporated February 1, 1916, under the name of Kermit Gas Company and the name was changed on March 4, 1916, to the United Fuel Gas Company.

Q. And is the word "incorporated" a part of that new or changed name?

A. I so understand.

Q. That is the present name of the company, now changed from the Kermit Gas Company, is United Fuel Gas Company? Is that correct?

A. According to my records it is. It is not that way on this tax report, but that does not necessarily mean it is correct.

Q. How long did the Kermit Gas Company hold their property?

A. Well, it was only a month and four days from the time the company was incorporated until the name was changed.

2288 Q. From what company did the Kermit Gas Company acquire its properties?

A. From the United Fuel Gas Company.

Q. Were all three of those companies West Virginia corporations?

A. Yes, sir.

Q. Can you tell us now about whether the Hope Natural Gas Company is at the present time selling gas to Keener's Natural Gas and Oil Company or the town of Weston?

A. The monthly reports submitted by the Hope indicate that it is not.

Q. When was the last sale by the Hope Company?

A. During the month of May, 1919.

2289 Cross-examination.

(Mr. Weil:)

Q. Mr. Nease, there seems to be, from the statements you have read into the record or introduced as exhibits, contained, for example, in the "Statement Showing Natural Gas Utilities Operated Within the State of West Virginia, December 31, 1919," on page 15 of the record, some confusion in my mind (perhaps not in yours) as to what you designate natural gas utilities. For example, calling your attention to the second name on that list, Virgil S. Allen: Why did you designate him as a natural gas utility operating within the State?

A. Well, he is engaged in the business of supplying natural gas to the public.

Q. To what part of the public does he supply natural gas? Whom does he supply?

A. I would not be in a position to state without refreshing my memory by getting the records pertaining to Virgil S. Allen.

Q. Does he make a report to the Public Service Commission?

A. He does.
Q. Have you that report?
A. Not before me.
Q. Can you get it before our next session?
A. I can.
Q. And he supplies, you say, some portion of the peo-
2290 ple?
A. He does.
Q. What is that name?
A. Aizpuru Oil and Gas Company.
Q. Whom do they supply?
A. Well, their service is very limited; they do not serve any towns or cities, but they do have some service to the public.
Q. But they serve nobody except on their own leases or free gas, or something of the kind?
A. Yes; they sell gas to the public, but I would also have to investigate their report in order to be specific.
Q. They make a report you say?
A. They do.
Q. What about the Bailey Gas Company?
A. The same answer would be applicable to the Bailey Gas Company.
Q. You do not know now without looking at your records whom they supply?
A. No; those three happen to be very small utilities; the extent of their business is very small.
Q. Those are the first three on the list?
A. Yes, sir.
Q. What about the Bristol?
A. It is another one of the same nature.
Q. And the Buckhannon?
A. The Buckhannon Fuel Company supplies the towns of
2291 Buckhannon and South Buckhannon.
Q. What about Godfrey L. Cabot?
A. He has consumers scattered around in different sections of the State. He supplies some consumers in Kanawha County; he supplies consumers in Roane County, and part of the City of Spencer, and he has consumers in Calhoun County; also in Wirt County, supplying the towns of Elizabeth, Newark, Creston, and numerous other small towns along the Kanawha River.
Q. His principal business and his principal use for gas that he produces is his carbon black manufactory, is it not?
A. That would depend on the locality in which he is operating. His operations are peculiar, in that he operates in different sections of the State, and there is no connection between these different operations. Now, as to Roane County: He does considerable utility business. His principal business in Calhoun County would be, and has been, the carbon black business.
Q. In what other counties does he make carbon black, if you remember, if any?

A. I think he has a plant in Wirt County or close to the line between Wirt and Calhoun. I think that is in Wirt County. I know he has a plant in Calhoun County.

Q. And where else?

A. I said in Wirt County.

Q. His production of gas is, is it, chiefly for the purpose of supplying his plants with gas for the purpose of manufacturing
2292 carbon black in those counties?

A. That has been his chief purpose in producing gas, but I should say his chief purpose now in producing gas is to place it on the market.

Q. Now, J. B. Cather Gas Company: what about that?

A. Cather; that is a very small company. I would not be able to tell you the exact location of that without referring to it. It serves no important communities.

Q. What about the Centerville population, etc.?

A. It is a little distributing company, serving Centerville in Tyler County.

Q. What about the Columbian Carbon Company?

A. That is primarily a carbon black manufacturing company.

Q. Where are their plants located?

A. The Columbian, I think, is in Lewis County, but I am inclined to think they have more than one. I could not speak definitely without looking over my records.

Q. You can get that from your records. What gas do they sell?

A. Let me understand. You would like to have further information as to each of those companies that you have questioned me about?

Q. Yes; those that I have asked you about. What about the Comet Oil and Gas Company?

A. It serves quite a good many consumers in Taylor County and the population in Grafton.

Q. Bring that statement also. John Q. Dickinson: what
2293 about him?

A. He has a very limited public service in Kanawha County.

Q. What about the Empire Petroleum Company?

A. That is of the same nature. Their service is very limited.

Q. And the Fay Company?

A. That is a company operated in Fayette County, in the vicinity of Gauley Bridge. It is a straight utility, not engaged in any other business.

Q. You can give us the towns it supplies?

A. I can.

Q. What about the Federal Coal Company?

A. It is primarily a coal company, but incidentally engaged in furnishing gas to the public.

Q. Give us that. What about the B. F. Gilmore?

A. He is also engaged in business to a very limited extent.

Q. Let us get that. What about the Harshbarger Oil and Gas Company?

A. That is about a 50-50 proposition. They produce both oil and gas, but it furnishes the substantial community of Milton, Cabell County.

Q. Give us that. What about the Huntington Development and Gas Company?

A. Well, it has considerable service.

Q. Bring that statement also, so we can go into that. What
2294 about the Imperial Oil and Gas Products Company?

A. It has some local utility business.

Q. And the Jane Lew Light and Heat Company?

A. Well, it also serves the public.

Q. What about the Lumberport Gas Company?

A. It serves the town of Lumberport and two or three other communities.

Q. Let us get that. What about the Monarch Carbon Company?

A. It serves several communities in Kanawha County.

Q. Is its principal business producing gass for its carbon plants?

A. I would not want to say right now that that was its principal business. It has considerable public business.

Q. It does run carbon plants?

A. It does.

Q. You can give us that?

A. I will.

Q. What is the Montgomery Gas Company?

A. It serves a great many towns and communities in Kanawha and Fayette Counties.

Q. Let us have that. What about Herman Moore?

A. He has gas production in Lincoln County, and serves the public to a limited extent.

Q. You may give us that information when you bring the report?

A. I will.

2295 Q. The Owens Bottle Machine Company?

A. The Owens Bottle Machine Company sells a considerable quantity of gas to industries in Kanawha County.

Q. Is not its operation primarily to obtain gas for its own operations?

A. Primarily, in the beginning, I think it was, but it had more gas than it needed, and it is now selling to the public in large quantities.

Q. It does produce gas for its own use in its own plants?

A. It does.

Q. What is the Raccoon Gas Company?

A. That is a small company supplying gas to the public.

Q. You can get that for us, also?

A. I can.

Q. The Randall Gas Company?

A. That serves a considerable portion of Morgantown and other sections in Monongalia County; it is purely a public service corporation.

Q. What about the Reno Gas Company?

A. It is a public service corporation, serving the public.

Q. And the Richter Oil Company?

A. It serves the public to a very limited extent. However, its business primarily is producing oil.

Q. You will have this statement, also?

A. I will.

2296 Q. The Rosedale Fuel and Water Company?

A. The Rosedale Fuel and Water Company is a gas company serving communities in Braxton County.

Q. The Salem Natural Gas Company?

A. That is a gas company serving the town of Salem.

Q. And the Shields Oil and Gas Company?

A. That is a gas company serving towns in Boone County.

Q. You can get the exact data from these reports?

A. I will.

Q. And G. B. Travis?

A. G. B. Travis has some public service business.

Q. And the Troy Oil and Gas Company?

A. It is a natural gas utility.

2297 Q. I show you a paper marked for identification "Pennsylvania Exhibit No. 50" and ask you if that is not one of the advance sheets or a part of a report which the Public Service Commission of West Virginia proposes to issue in some one of its reports or in its annual report, and which the Public Service Commission had printed?

A. This statement not being prepared under my direction I am unable to answer the question.

Q. I beg your pardon?

A. As this was not prepared under my direction, I am unable to answer the question.

Q. Do you not know from your official connection with the Public Service Commission that such a statement is being prepared by the Commission under the direction of some representative of the Commission, and that they have issued some of these advance sheets?

A. This is the first time I have seen an advance sheet, Mr. Weil.

Q. Do you not know there is such an advance sheet there in the office of the Commission?

A. No, I do not know it.

Q. Do you not know that they had in preparation such a report?

A. I may have had the most general knowledge of it, but, it being in another department, it did not concern me. I was not interest in it and did not concern myself about it.

2298 Q. Being a little more definite, you say you may have had a little knowledge that such a statement was being prepared. Then you had the general knowledge?

A. I have not the general knowledge. That they have prepared statements similar to that from time to time, and perhaps this. I am not in a position to state. I cannot state the purpose.

Q. I am not asking you the purpose. I am asking you as to the fact.

A. Did not you ask if it was not being prepared for the annual report?

Q. I said for that, or perhaps some other purpose of the Commission.

A. I do not know the purpose for which it was prepared.

Q. But you have some information that such a statement as this has been prepared, or of a similar character in recent years; and do have information that some such statement was being prepared by the Public Service Commission at the present time?

A. Yes, in the most general way, I have known that such a statement as that was being worked on. I stated that it was not in my jurisdiction and not under my notice and was in a different department altogether. It had not, I will state, become a part of the statistical report prepared for the Public Service Commission, such report being prepared under my jurisdiction and direction. I will state that such a report has never been included in the data of the statistical department, of which I have been the head, since shortly after the organization of the Commission.

2299 Q. This statement purports to show the natural gas produced and distributed within West Virginia and the quantity imported and exported from the State, fiscal year ending June 30, 1920, Inspection Department. Is there any other department of the Public Service Commission of West Virginia that prepares, collates and puts out statements of this character, or of this general character, with which you as, I believe, the chief statistician of the Commission, have anything to do in its preparation?

A. I have had absolutely nothing whatever to do with the preparation of any papers of any other department except the statistical department. I have had nothing whatever to do with the preparation of this particular paper.

Q. Are you not consulted by the Public Service Commission, or some of its representatives, in connection with the preparation of such statistical data.

A. I am not, and have not been, as to this particular statement, or any former similar statement.

Q. Has the Public Service Commission no other Bureau except the statistical department of which you are the chief statistician, that collates or prepares any statement of the same general character as this without consultation with you or under your general supervision and direction as chief of the statistical department?

A. I am afraid I do not understand that question.

2300 The question was read to the witness.

A. I have no knowledge of any statistical information being prepared by any other department except the statistical department, except in the most general way, as I have given to this paper, the answer I have given as to it.

Q. Now, this statement purports to show 69 utilities including substantially every one of those mentioned in the list which is found on page 15 of the record, and several others, showing the name of the utility, purchases by the utility in M cubic feet; C—purchased from other producers in the state; M cubic feet; D—total production

in state M cubic feet; E—purchased from other utilities in the state M cubic feet; F—imported by utility from other states M cubic feet; G—balance line lease, etc., M cubic feet; H—total available supply of gas M cubic feet; I—sold to cities and towns in the state M cubic feet; J—sold to field and o.. main lines M cubic feet; K—total distribution in state M cubic feet; L—sold to other utilities in the state M cubic feet; M—exported by utility to other states M cubic feet; N—balances, line leases, etc., M cubic feet; O—total distribution of gas M cubic feet; P—average number of wells used by utilities M cubic feet; Q—average number of wells used by others; R—total of both averages of wells; S—reported as used for carbon black M cubic feet. Is there any other department of the Public Service Commission of West Virginia from which this information could be obtained except its statistical department of which you are the chief.

2301 Mr. Blue: The state of West Virginia objects to the foregoing question and excepts to any answer thereto for reasons, among others, that Pennsylvania Exhibit No. 50, from which counsel for the state of Pennsylvania has used certain headlines appears, to be a printed statement wholly unidentified, no page number indicated on it, to indicate on its face, the only source from which it might come to the state of Pennsylvania, being that of Anderson & Taylor, Consulting Engineers of Charleston, West Virginia, of which Mr. J. K. Anderson testified on behalf of the plaintiff, State of Pennsylvania, as a witness, and as the engineer retained and employed by the Manufacturers Light & Heat Company; and the witness has answered that this statement was not prepared by him as chief statistician, and further, that such statement would not appear in the statistical statements in the report of the Public Service Commission of West Virginia; and the paper being unidentified and unvouched for, any examination of the witness in respect thereto, is objected to and excepted to; and, without repeating the objection and exception to any questions that may be propounded to the witness by counsel for the complainant in respect to such a paper, this objection is to go to any and all such questions; and the State of West Virginia by counsel insist that before any examination of this witness in respect to such paper shall be made, that the paper shall be identified and vouched for by some person as competent and officially entitled on behalf or in connection with the Public Service Commission of West Virginia, to make such report, that the same was made for and on behalf, or in connection with any report of the Commission of which the paper identified as Pennsylvania Exhibit No. 50 shall be a part.

Mr. Weil: For the information of the Commissioner and of the Court, counsel for complainants states he expects to show
2302 before the paper is formally offered as an exhibit, that same was obtained from the Public Service Commission of West Virginia, was issued by them as an advance sheet delivered to Anderson & Taylor by the Public Service Commission in their

office as an advance sheet of some report to be subsequently issued by the Public Service Commission of West Virginia.

The Commissioner: Let the statements of counsel be noted, and the witness will answer the question.

A. I am not able to answer that question for the reason, among other things, that the column N of this statement attempts to show a "Balance Line Lease, etc." I am not aware that any other department has information of that character which would enable them to arrive at the figures shown in that column.

Q. Is that the answer you want to stand in reply to this question?

A. I might add that, as I have stated before, that was prepared, if at all, by another department; but I should dislike very much to give some other objection into this record which I might have to this report and its use.

Q. Leaving out Column N, is there any other department of the Public Service Commission of the State of West Virginia than the statistical department from which they could obtain the number of thousands of cubic feet produced by the respective utilities in the state?

A. Yes, the Inspection Department gathers that information; is presumed to.

2303 Q. And the amount of gas purchased from other producers in the state?

A. Yes, that would be available to the Inspection Department.

Q. And the total production in the state?

A. They could not get it from any information which is being furnished them to my knowledge except by deduction.

Q. And the amount purchased from other utilities in the state?

A. They get that.

Q. Could that be obtained from any other source than from these reports which are in the statistical department made by these respective companies?

A. They would have access to reports that would give them that information.

Q. And that would be the reports in the statistical department, would it not?

A. Not necessarily. They would have those in their department.

Q. And "Imported by the utilities from other states" could they get that from other sources than from your statistical department?

A. They could.

Q. And the "Total available supply of gas," could they get that from other departments?

A. That is a conclusion of theirs, Mr. Weil.

2304 Q. Could they get it from any other department than that contained in your department, the statistical department?

A. Well, from the character of the information which they gather that information could be gotten.

Q. Otherwise than from your department?

A. I said from the information they gather in their department.

Q. I asked, from other than your department. They gather that as well as the others?

A. Yes, that is true. I said from other papers, or what they gather.

Q. And from what they gather other than from your department?

A. They do not gather anything that has any connection with my department.

Q. Do you run a department, separate and distinct from the Public Service Commission?

A. I run that department separately as a part of the Commission.

Q. That is part of the records of the Commission, is it not?

A. They are.

Q. Could they get this data "Total available supply of gas" from any other records on file with the Public Service Commission except that which is contained in some reports or data filed in your department, the statistical department of the Commission?

2305 A. That item "Total supply of natural gas produced in West Virginia," if that is what that attempts to show, is a matter of deduction and competition, and is not shown by any reports which we gather.

Q. Is not the data on file in your bureau?

A. Not necessarily. They have that in the Inspection Department.

Q. It is information separate and distinct from your department?

A. Yes.

Q. And they can get the amounts sold to cities and towns in the state in the same old way, can they, without reference to your bureau?

A. They can.

Q. And "Sold to field and on main lines"?

A. Yes, they can get all that information in a way.

Q. And the total distribution in the state?

A. Yes.

Q. And "Sold to other utilities in the state," is the same true of that?

A. Yes.

Q. And "Exported by utility to other states"?

A. They collect that information.

Q. And they can get that without reference to the data in your department?

A. Yes.

2306 Q. And the "Balance, Line Lease"?

A. I do not know how they got that. They did not get it from any reports that I know of that are made to them.

Q. "Total distribution of gas," can they get that in the same way?

A. By deduction and estimates and in the way it has been gotten.

Q. And without reference to the data in your department?

A. They did not get that from any data on reports.

Q. From your department?

A. From any department.

Q. Would "Average number of wells used by utilities"—is the same true of that?

A. Yes, they could get that.

Q. And the "Average number of wells used by others"——

A. I take it they can. I do not know that they can.

Q. And the "Total of both averages of wells"—they could get that, I suppose, in the same way?

A. That is a matter of computation, if they could get the other.

Q. Then there are other departments of the Public Service Commission of the State of West Virginia containing statistical data, or statistical data that is valuable, and it is not in your department, and it is not under your direction?

A. That is true. I might state that it is not confined to the Inspection Department.

2307 Q. And the evidence which you have given us here in reply to questions by counsel is without reference to the data in the other departments, but solely from the data contained in your own department, over which you have the supervision?

A. I did not so state, and such is not the fact.

Q. From what other sources then, did you obtain the data to which you have testified except from the records in your own office?

A. I naturally would go to all available sources in gathering data of this nature. As an illustration, in making up my list of utilities, I would not confine it to the data which I might have in my office, or at least in the preparation of the copy of that list. I would consult the other departments. I would consult the Secretary's office as to companies that filed rates or had rates on file. I would then talk with the Inspection Department, and check with them as to utilities with which it had dealings. My data is not confined alone to information which I have within my office. I went to any sources of information which I thought would in any way assist me in the preparation of the data.

Q. Did you go to that department of the Public Service Commission of West Virginia which contained the statistical data which is given on this Pennsylvania Exhibit No. 50?

A. As I have stated before, Mr. Weil, I do not know, and have no definite actual knowledge that that paper was prepared by any department of the Public Service Commission. If it be as-

2308 sumed that it was prepared by some department, it is likely that I did so. In the checking of such records as I have prepared.

Q. In the "Statement showing the natural gas utilities operating within the state of West Virginia," I observe that you have omitted the Natural Gas Company of West Virginia. That is true, is it not? It is not in that line.

A. In what line?

Q. In the list, on page 15 of the record, "Statement showing natural gas utilities operating within the state of West Virginia, December 31st 1919."

A. If your list does not show that, it is a misprint because the list

which I hold in my hand does show it. If it is omitted in your statement, it is a typographical error.

Q. That is my mistake. It is here, No. 42. The Natural Gas Company of West Virginia obtained substantially all of the gas which it supplies in the state of West Virginia from other states than West Virginia, does it not?

A. It does.

Q. And it supplies the City of Wheeling, I believe, and vicinity, does it not?

A. Primarily with domestic gas.

Q. I mean with domestic gas. And supplies something like three billion feet a year, or in that neighborhood, does it not?

A. I would not be in a position to state without referring to my records.

Q. Do you know that the Carnegie Natural Gas Company
2309 imports from other states into the State of West Virginia over one hundred million feet of gas per annum?

A. No, I do not know that.

Q. Do you know that the City and Suburban Gas Company imports into the state of West Virginia from other states over one hundred twenty-five million feet of gas a year?

A. I knew that the City and Suburban Gas Comapny operated outside of the state of West Virginia.

Q. Did you know that it imported into the State a large quantity of gas?

A. The City and Suburban Gas Company imported a very small quantity of gas into the state during the year 1919.

Q. How much?

A. 36,205 M cubic feet.

Q. Do you know from the reports on file in your office that up to June 30th of this year it imported into the state 126,889 M cubic feet?

A. I do not have that information on file.

Q. Do you know that the Hope Natural Gas Company imported into the state for the year ending June 30th, 1920, 755,666 M cubic feet from other states?

A. I think I testified to that this morning. Yes, I showed that this morning, Mr. Weil, in my direct testimony. But that importation was all during the year 1919, the last five months of the year 1919. None of it in the year 1920. I thought I answered that question and explained.

2310 Q. You did not give the amount. You said that it imported into the state. Do you know that the Natural Gas Company of West Virginia purchased from other utilities in the state 6,852,000 M cubic feet and imported from other states into West Virginia 3,416,826 M cubic feet and supplied to cities and towns in the state 3,245,419 M cubic feet for the year ending June, 30, 1920?

A. No, I do not know that, Mr. Weil. I have not compiled that information; any of it that you are referring to.

Q. Do you know that the Point Pleasant Natural Gas Company

imported from other states 113,062 M cubic feet for the year ending June 30th, 1920, and that was the whole amount sold by it in the state of West Virginia during that year?

A. I do not know that. As I have stated before, I do not know anything about the figures you are reading, as I have not compiled them. I might state, however, that such gas as it does use it imports into the state.

Q. And do you know that the Randall Gas Company imported from other states and sold in the state of West Virginia 212,155 M cubic feet for the same period ending June 30th, 1920?

A. That is very much more than they imported for the annual period ending December 31st, 1919.

Q. They imported some of it during the year 1919, did they?

No response by the witness.

Q. Do you know that the United Fuel Gas Company im-
2311 ported from other states and delivered in the state of West Virginia 618,989 M cubic feet for the year ending June 30th, 1920?

A. No, I do not know that; but, as I stated this morning, the United Fuel Gas Company does import a small quantity of gas into the state.

Q. Do you know that the West Virginia Central Gas Company imported from other states and delivered in the state of West Virginia 11,679 M cubic feet during the same period to which I have previously referred.

A. No, I do not know that. I think that is a mistake.

Q. Do you know that the West Virginia Traction & Electric Company imported from other states and delivered in West Virginia 67,581 M cubic feet for the same period to which I have referred?

A. No, I do not know that, Mr. Weil.

Q. Do you know that they do from time to time import gas from other states, do you not?

A. They imported a very small quantity during the calendar year of 1919.

Q. I believe you stated that the Manufacturers Light & Heat Company, in their report, stated that they were unable to determine or report the quantity of gas which they obtained from other states and imported into the State of West Virginia. That is correct, is it not?

A. I am not sure that they said that in their report, in this
2312 report. But I know they have, on various occasions, made that statement. Let me see just what they did say in their report, if you want that answer definitely. The Manufacturers Light & Heat Company on this tax report made to the Board of Public Works evaded the questions, but said in their explanation for not answering that they had a number of pipe lines crossing into and out of the state, but did not give the information.

Q. Now, inasmuch as you have answered my question by saying that the Manufacturers evaded the question, will you please read the question and their exact answer.

A. I think your questions were pertaining to the importation of gas, were they not?

Q. Yes (reading the matter asked into the report). "Q. If this company has pipe lines leading from other states to this state, give the number of such lines and size of pipe used and the quantity of gas pipe, for the year ending December 31st," the answer is "A. See Form 9-U." On page 9 "22 lines crossed the Ohio River between Chester in Hancock County, W. Va. and New Martinsville in Wetzel County, W. Va. also pipe lines crossed the state line between West Virginia and Pennsylvania at various points in all three states, and the gas intermingles and flows through the entire system, sometimes in one direction, sometimes in the opposite direction, depending upon the demand in any particular locality." It is apparent that the answer is not responsive to the question.

Q. Could you tell us how the company could have answered the question with any more definiteness or correctness?

2313 A. Yes, they could have very definitely said they were unable to answer the question. They simply said "Sometimes the gas passes in one direction and then another, depending on the demand."

Q. And you would characterize that answer as you have done as an evasion, would you?

A. I would. I might add that it is apparent they do not state whether they can or cannot give the information, in the answer.

Q. In the list which you have furnished on page 15 of the transcript showing the natural gas utilities operating within the state of West Virginia, you have attempted to give us only those companies or individuals producing gas or furnishing gas to some part of the public in the state of West Virginia?

A. Well, the question of production of gas would not enter into it. It would be a question of service to the public that would determine the list.

Q. Those companies or individuals that were engaged in the production of natural gas and furnishing the same to themselves in their own plants for their own use and not supplying any to the public would not be included then in this list?

A. They would not.

Q. And you know that there are some such?

A. There are some few.

Q. In the state?

A. There are—I might qualify my answer by stating the

2314 Owens Bottle Machine Company and a few others in this list use considerable quantities of gas produced themselves.

Q. For their own use?

A. But by reason of the fact that they are also engaged in the public service business, we are able to get reports from them.

Q. Since you referred to the Owens Company, do you not know it to be a fact that for about six months it has not been supplying any gas to the public? That it is using all of the gas produced by itself in its own works, and that the United Fuel Company has taken

over and is now supplying all of the consumers who formerly obtained gas from the Owens Bottle Machine Company?

A. No, I do not know that. It may be true, and I have no doubt it is, if Mr. Altizer states that it is. As I have stated here, my list here is as of December 31st, 1919. I would be able to definitely answer that question at a later time if you desire.

Q. What company is it, Mr. Nease, that supplies the town of Blacksville, W. Va.

A. The Manufacturers Light & Heat Company, to the best of my knowledge, now, without looking it up more definitely.

Q. Do you know anything about the Blacksville Oil Company?

A. It is a constituent company of the Manufacturers.

Q. Have you any knowledge upon that subject, Mr. Nease?

A. The last record I had of the Blacksville Oil & Gas Com-
2315 pany, it was.

Q. Is not there another company in the town of Blacksville that supplies Blacksville with gas?

A. Not to my knowledge. If so, it has escaped our notice.

Q. To refresh your recollection, does not the report of the Manufacturers Light & Heat Company show them supplying just four people in the town of Blacksville, and four people only, four customers only?

A. I could refer to the report, and answer that question. The report of the Manufacturers as of December 31st, 1919, shows only three meters in the town of Blacksville.

Q. Mr. Nease, calling your attention to statements submitted by you, one about which you have just been examined "Statement showing natural gas utilities operated within the state of West Virginia December 31st, 1919," and the next, contained on page 44 of the transcript, being 44-B and 44-C, headed "Statement showing acreage held in West Virginia by natural gas utilities December 31st, 1919," I call your attention to the fact that while there are 67 companies mentioned in the first statement there are only, as I counted them, 55 companies mentioned in the second statement. The second statement showing the acreage held in West Virginia by natural gas utilities; and you have separated into two parts, taking the seven companies, the Hope, Pittsburgh & West Virginia, United Fuel Gas Company, the Reserve, the Carnegie, the Columbia, and Manufac-
turers Heat & Light Company, separate from the others, and
2316 showing a large amount of acreage held comparatively by the seven companies as compared with all the others. Did not you omit from this last statement, showing acreage, some of the largest acreage holding companies in the state of West Virginia which were included in the other list, on which there were these seven names, and which would have shown the other companies as compared with the seven in a very different proportion?

A. It was explained this morning in the testimony on direct examination as to the Ohio Fuel Oil Company. I said then that the Ohio Fuel Oil Company is engaged in public service business to such a limited extent it should have been excluded even from the first list. Practically every bit of its natural gas production that it does not

use itself is sold to the United Fuel Gas Company. It was omitted also, for the further reason that it is primarily a very large oil producing company and not a public service corporation. The same statement would hold true as to the South Penn Oil Company, which I think counsel has in mind. Except that the South Penn Oil Company, in addition to selling to the United Fuel Gas Company, sells considerable gas to the Hope Natural Gas Company. Now, with those two exceptions, I do not believe you will find any omissions of any gas companies of any significance omitted from the second list; in instances where they are omitted, it was for the reason that the data was not available.

Q. Now, as a matter of fact, both the Ohio Fuel Oil Company and the South Penn Oil Company produced considerable quantities of gas, do they not?

2317 A. They do. The Ohio Fuel Oil production is not large.

Q. What would you call large. How many million feet a year would you say was large?

A. Well, I would not consider two or three million feet a large production.

Q. What was the production of the South Penn Company?

A. The South Penn Oil Company had a production in the calendar year 1919 of a little over two billion feet.

Q. Now, do you not know that both the Ohio Fuel Oil Company and the South Penn Oil Company claim they obtained gas wells, frequently sell the wells themselves to these other gas companies, instead of just selling the gas?

A. I so understand.

Q. And in their developments for oil, you know that frequently they obtain a gas well,—both of these companies?

A. Yes, that is true.

Q. Then, why should not their acreage have been included in this other statement of acreage held by public utilities, when you list them as public utilities, and are trying to show the comparison between the acreage held by all of the other companies and the acreage held by the seven companies alone?

A. Beause they are not primarily public service corporations. They are only public service corporations to the most incidental extent.

Q. Is not the same true of a large number of other corpo-

2318 rations?

A. It is.

Q. What about the Owens Bottle Machine Company?

A. The Owens Bottle Machine Company, for the calendar year 1919, sold large quantities of gas.

Q. Why did not you include them, then, in your list of acreages? Was it because they held about 40,000 to 50,000 acres of leases?

A. I am not advised as to the acreage of the Owens Bottle Machine Company.

Q. Why were they not included if they came under the description you have just given in this list?

A. I think I have answered that question. I said, Mr. Weil, that

the information was not available, and was not gathered by any department or by anybody from whom I could get the information.

Q. Then, this statement does not purport to be full, complete or accurate?

A. It is substantially full and complete with the explanations that have been made.

Q. In this list, I observe, for example, "Statement showing acreage held in West Virginia by natural gas utilities" you have down quite a number of them by name that have not any territory at all?

A. Yes.

Q. Why did you put them in?

A. Well, those are companies which have no acreage at all.

2319 They are purely marketing companies.

Q. Why did you put them in when you wanted to show acreage? Was it the purpose to show as large a number as possible compared with the seven?

A. That was merely a matter of information.

Q. Why did you not put in for the sake of information the Owens Bottle Machine Company, the South Penn Oil Company, and the Ohio Fuel Gas Company, which you say are public utilities and are producing and selling a large quantity of gas?

A. I think I have explained that fully enough. I do not see what I could add to what I have said.

Q. What was the real purpose,—to make as disproportionate a showing as possible against these seven companies without giving the real facts to the court?

A. Mr. Weil, to state as concretely as I know how, that was not the real purpose and real reason for the omission. These statistics were not available. If there is any state department other than the statistical department that has the information, I do not know what department it is. If those statistics are available from any source except the companies themselves, except the Ohio Fuel Oil Company, I do not know the source.

Q. You know the acreage of the South Penn and the Ohio Fuel Oil Company?

A. I do not know the acreage of the South Penn. I do not know of anybody that does know except the company itself.

2320 Q. Are not they required to make a report of that?

A. They are not. They have always resisted the idea that they were public utilities, and have refused and declined to make reports so the Board of Public Works under the theory that they were not public utilities. The only reason they are classified as public utilities on my first statement is because the Commission did take jurisdiction over them to the extent that they were serving the public, I might say, over the protests of the companies.

Q. How many acres does the Ohio Oil—Ohio Fuel Oil Company hold?

A. I would not be able to tell you unless I would get the report. I might say that the Ohio Fuel Oil Company is the only company omitted here that makes report to the Board of Public Works. That

is the only source known to me of this acreage from which this acreage could be obtained.

Q. Why not state in this statement, having given us this list of utilities and made out this comparative statement, that you could not give the acreage of the other companies?

A. I knew enough about the character of your examination in this case and what it would be, that it would be put into the record. I suppose that putting it into the record in this way would be as good as an attempt to make further explanation on the exhibit.

Q. In other words, you wanted to leave the facts to be brought out on cross-examination instead of setting it forth in that statement?

2321 A. I did not think it necessary to burden the statement with explanatory notes. I did not have the least suggestion or idea that you would overlook that proposition, Mr. Weil.

Q. I thank you for the compliment. It seems to me the statement should have been full and complete without reference to the cross-examination. Did not the Owens Bottle Machine Company make a report to the Public Service Commisssion?

A. It does to the Public Service Commission but not to the Board of Public Works. There is a distinction that ought to be noted right here. What the Public Service Commission of West Virginia regards as a public utility does not agree necessarily with what the Board of Public Works would class as a public utility. The Board of Public Works would not require reports from utilities that were just to a very incidental extent serving the public with any public service. While the Public Service Commisssion would class such companies as public utilities to the extent that they did serve the public. As I said, for that reason the omissions here with the exception of the Ohio Fuel Oil Company do not make returns and are not assessed by the Board of Public Works as public utilities.

Q. In the report of the Owens Bottle Machine Company to the Public Service Commission, did it not show this acreage?

A. It does not. There are no statistics required from the Owens Company which would require it from it. There is nothing from the Public Service Commission which would require it to show

2322 its acreage. I would like to state, once for all, if that information is available, I would not know the source except from the company's records. It is not available.

Q. Would you say, Mr. Nease, from your knowledge of the general situation, that if the Ohio Fuel Oil Company, the Owens Bottle Machine Company, and South Penn Oil Company, had been included in this statement showing the acreage held in West Virginia by the natural gas utilities, that the correct acreage, developed and undeveloped, of the other companies than the seven companies named would have been larger than all of the acreage held by the same companies?

A. I have no knowledge as to the acreage held by the South Penn Company and the Owens Bottle Machine Company. But if you want me to venture a guess, I would guess that their natural gas acreage would not be anything near the amount of natural gas acreage

held by the seven companies. But, as I said, that is merely a guess.

Q. Do you not know that the South Penn Oil Company alone holds the oil and gas rights in between two and three hundred thousand acres in the state of West Virginia?

A. I am not familiar with the holdings of the South Penn Oil Company.

Q. Do you not know that the Ohio Fuel Oil Company holds the gas rights in over fifty thousand acres?

A. I could give you the estimate on behalf of the Ohio Fuel. I do not have them before me.

2323 Q. You can get that?

A. Yes.

Q. And the Owens Bottle Works holds the gas rights in over forty thousand acres?

A. As I said, I do not know anything about what they hold. I might add further that I do not know anything about the holdings of independent producers throughout the state,—any of them.

Q. Calling your attention again to the statement showing acreage held in West Virginia by natural gas utilities, as stated by you in your testimony the Centerville Pipe Line & Gas Company has no undeveloped or developed territory. The Kanawha Gas Company has neither undeveloped or *un*developed territory. The Keener's Oil, Natural Gas & Fuel Company, as put down by you in this same report, has neither undeveloped or developed territory. The Light, Fuel & Power Company of West Virginia as put down by you on this report has neither undeveloped or developed territory. The Mountain State Company as put down by you on this report has neither undeveloped or developed territory. The Northern Natural Gas Company has neither undeveloped or developed territory. The Point Pleasant Natural Gas Company has neither undeveloped or developed teritory. The Reno Gas Company has neither undeveloped or developed territory. The West Virginia & Maryland Gas Company has neither undeveloped or developed territory. Why did you put them down on this statement showing the acreage held in West Virginia by natural gas utilities?

2324 A. One reason was because I had the data and information as to whether or not they did own territory. Each company that you mentioned makes a report to the Board of Public Works. In that report they show that they do not hold territory.

Q. Why did you put them down on a statement showing the acreage held if you had the data showing they held none?

A. As I said before, for a matter of information. It was to show they did not hold territory.

Q. Did you know that the Mountain State Gas Company, the one that I have mentioned, has been out of business in West Virginia for over ten years?

A. This is not the Mountain State Gas Company that you have reference to. This Mountain State Gas Company is now in business.

Q. Where does its supply gas?

A. To certain communities in Boone County.

Q. Can you name the communities, or any of them?
A. I could not without getting the report.
Q. Where does it get its gas?
A. From what is now the Pure Oil Company, formerly the Ohio Cities Company.
Q. From what?
A. The Pure Oil Company, formerly the Ohio Cities Company. Its gas utility business is what is known now as the Pure Oil Company. They have a separate corporation to handle the utility business.

2325 Q. The Pure Oil Company owns a large acreage, does it not, in the state of West Virginia?
A. I am not advised as to the holdings of the Pure Oil Company.
Q. Do you not know that it holds a large amount of acreage in Kanawha and Boone Counties?
A. As a matter of the most general information, I might say that I do know that it holds some acreage, but I am not advised as to the extent. I have no reports of it.
Q. The Mountain State Gas Company is a distributing company of the Pure Oil Company?
A. Locally, here.
Q. Why was not the Pure Oil Company put down on this list?
A. It is not a public utility in the state of West Virginia.
Q. Does not it supply gas to a public utility that supplies it to the public?
A. Yes, but so do all the other gas producers. All the independent producers sell their gas.
Q. If it supplies the gas to the public through this subsidiary company or gas distributing company, would not you call it in the gas business.

Mr. Blue: The state of West Virginia objects to the foregoing question because calling for a conclusion of law and asking for an opinion thereon; and for the further reason that the statement made by the witness to which counsel is referring in his
2326 examination, purports to show a statement of acreage held in West Virginia by natural gas utilities, and the witness has stated that the Pure Oil Company makes no report to the State as a natural gas utility.
The Commissioner: Let the objection be noted and the question answered.

A. It is in the gas business the same as any other gas producing company would be. If we would include it, we would have to include the 450 other gas producers in the State for the same reason that we would include it.
Q. Calling your attention now, Mr. Nease, to the statement read into the record at page 31-*b* of the transcript "Statement Showing Total Production of Natural Gas in West Virginia and the Total Net Public Supply Thereof in 1919" if I remember your testimony correctly (if not, I wish you would correct me) you said you ob-

tained the total production from various sources chiefly from the United States Geological Reports?

A. I do not think I said chiefly from the United States Geological Reports. I did obtain a considerable portion of the data from such reports.

Q. And from what other sources did you obtain your information in addition to the United States Geological Reports?

A. Well, from reports filed with the various state departments of West Virginia.

Q. What reports?

A. From the reports filed with the State Tax Commissioner. For the Board of Public Works and other reports submitted to the
2327 Public Service Commission of West Virginia.

Q. From any other sources?

A. No, I believe that would be the three sources from which this particular information was obtained.

Q. Then you obtained it from the United States Geological reports, from the reports made by the respective companies to the Board of Public Works and to the Public Service Commission. Is that correct? From those three sources?

A. Yes, substantially. I do not now think of sources that I might have gotten information from that might occur to me later, but those were the three main sources.

Q. Now then, calling your attention to the statement you have given for the year 1919, the total gas production in the State of West Virginia at 219,053,658 M. Cubit Feet. Where did you get that? From the Geological Survey?

A. That was gotten from the reports from the other sources mentioned—not from the Geological Survey Reports.

Q. In other words, then, that was obtained from the reports made to the Board of Public Works or to the Public Service Commission by the various public utilities. Is that correct?

A. Yes, not necessarily various public utilities. It would also include carbon black manufactories.

Q. But would not include private operators?

A. It includes such companies, yes.

Q. How would it include that? How would they make
2328 reports?

A. They do not make reports.

Q. It would not include that unless they sold their gas to some public utility, would it?

A. It would not.

Q. If these individual operators sold their gas to some manufactory or industrial plant, or if they produced this gas for their own use in their own plants, that would not be included, would it?

A. It would not except as stated heretofore.

Q. Where did you get the items making up the aggregate of the gas sold and used in field operations?

A. That was gotten primarily from reports submitted to the Public Service Commission.

Q. That, of course, would not include, then, the individual pro-

ducers or those who produce gas for their own use in their own plants?

A. It would not. Such gas, as a rule, is not accounted for.

Q. Where would you get the items of the "Quantity of Gas Used or Marketed by Private Persons or Enterprises?"

A. That is substantially the gas used by carbon black factories in the manufacture of carbon black.

Q. And would not include concerns like the Owens Bottle Company, for example, who supply themselves with their own gas?

2329 A. It does not.

Q. Or any other similar concerns?

A. No, it does not.

And adjournment was here taken until Friday, December 17, 1920, at 10 o'clock, a. m.

2330 Supreme Court of the United States, October Term, 1919.

THE COMMONWEALTH OF PENNSYLVANIA, Complainant,

vs.

THE STATE OF WEST VIRGINIA.

THE STATE OF OHIO, Complainant,

vs.

THE STATE OF WEST VIRGINIA.

Before Levi Cooke, Esq., Commissioner.

Defendant's Testimony.

Morning Session, Friday, December 17, 1920.

2331 Friday Morning, December 17, 1920.

And now, the hour of 10:00 o'clock, a. m., having arrived, hearing resumed, pursuant to adjournment.

H. E. NEASE resumes the stand.

Cross-examination (continued).

Mr. Weil:

Q. In view of your testimony, Mr. Nease, to the effect that the fourth column in this statement on page 31-*b*, "Gas Used or Marketed by Private Persons or Enterprises," that it did not include concerns like the Owens Bottle Company, who supply themselves, nor any other similar concerns, is not that heading, under the facts and cir-

cumstances, misleading when it states: "Used or Marketed by Private Persons or Enterprises"?

A. It is not, Mr. Weil, for the reason that the total of such gas is not included in the first column, the total production.

Q. Well, regardless of that fact, should not this statement by its headings, as far as possible, express the actual facts?

A. It should.

Q. Should it not, for example, when you stated the total production in thousand cubic feet under a statement purporting to show the total production of natural gas within West Virginia and the total net supply thereof, have contained the explanation that it did not include in the total production that gas to which you have already referred, and did not include in the "Gas Used or
2332 Marketed by Private Persons or Enterprises" that gas to which you have referred?

A. Well, possibly an explanation of that kind would have made the exhibit somewhat more clear, but the statement, of course, does not attempt to show the total production of gas in the state for other reasons than those named by you. There is a great quantity of gas naturally wasted from oil wells and in other ways, even in the operation of gas plants, that is not accounted for in any way by anybody. That gas also would not be included.

Q. I was going to ask you about that, I am glad you mentioned it.

A. This total production here would include all gas that is saved and handled by public utilities.

Q. And nothing else?

A. The carbon black plants as indicated under the fourth column and such gas as would be used in the field for production purposes.

Q. Now calling your attention further to this statement, you have for the year 1918 under the column "Used or Marketed by Private Persons or Enterprises," 34,000,000 ft. As I understood your testimony, that was your approximation?

A. That is true, but that is substantially the correct figure.

Q. How did you get that approximation—from what sources?

A. From the carbon black plants themselves in most in-
2333 stances. It may have been necessary to estimate as to one or two companies.

Q. Do I understand you then to mean that in this fourth column of "Gas Used Or Marketed by Private Persons or Enterprises," that that is to a very large extent gas that is used by these carbon black manufacturers?

A. That is what I intended by the figures in the column.

Q. Now, then, in 1917, you have it estimated at 25,000,000 ft. I presume the same explanation is applicable there that you just made as to 1918?

A. Yes, except the information at hand was hardly as complete for that year, as it was not as complete for that year and the earlier years as for 1919 and 1918.

Q. That was because, if I remember your statement, the carbon black companies were not required under your law to make their

reports prior to that time, or did not make them, to the Public Service Commission or the Board of Public Utilities. Is that the fact?

A. Yes, such reports were not made prior to 1917,—or 1918.

Q. And therefore you simply estimated the amount, now is not that a fact?

A. Well, in a way, Mr. Weil, it was estimated, and it was verified to an extent. By a process of deduction it was—we are able to show that the quantity of gas used for that purpose was

2334 around the figures given.

Q. How could you ascertain that if they made no reports?

A. Well, we had the total production of natural gas as shown by the U. S. Geological Survey reports, and then from such data as we did have as to the consumption of natural gas in West Virginia, enabled us to arrive at something near the consumption by carbon black plants. I might state too, if I have not already done so, that we had the advantage of the estimate of the U. S. Geological Survey that 20,000,000,000 ft. was used annually for this purpose.

Q. You have used that estimate of 20,000,000,000 ft. for the years 1910-11-12-13-14-15-16?

A. Yes.

Q. Don't you know that in some of those earlier years there was a very much larger quantity of gas used for carbon black manufacturing than in the later years; that is, when the gas was much cheaper and was much more easily obtained, don't you know that there were more carbon black factories and more gas used for that purpose, especially during the years 1912, 1913, 1914, 1915 and 1916?

A. No, my judgment is that the greatest consumption of gas used in the manufacture of carbon black was in the year 1918.

Q. From what sources do you get that information?

2335 A. From my knowledge of the number of plants and number of people that were engaged and the extent to which they were engaged in the business, there were a greater number of companies, a greater number of carbon black plants in the state in the year 1918 than any time in the history of the state—during the last fifteen years, and I do not think the question of the cheapness of gas in those early years affected the situation as to the manufacture of carbon black prior to 1917 or 1918.

Q. Did the fact that those companies were able to obtain the gas for that purpose either by drilling themselves or in their own operation, or by purchasing it from other operators in the vicinity of their plants, as compared with the later years when the gas shortage began to develop, make them use more gas for that purpose, than after the attention of the public and the authorities was directed to the fact that this was such a wasteful use of gas?

A. I do not think the situation that it was such a great waste had much effect with the use by the carbon black manufacturers, and they as long as they could manufacture or use their gas more profitably for carbon black than they could sell it on the market, did so. I think there was not much sentiment in the proposition with

them. As a rule though, I might add, that the carbon black manufacturers were situated in more or less isolated sections in the early years, apart and away from markets for natural gas, and their incentive, of course for the use of carbon black was the low price
2336 they could obtain for their natural gas where they were in a postion to sell it.

Q. This fifth column is a mere computation made by you by first deducting from what you put down here as the total production the figures used by you and has explained "Used and Sold in Field Operations" and also the fourth column "Used or Marketed by Private Persons or Enterprises" as explained by you,—deducting the sum of those two columns from the total production, as explained, gives you the net public supply?

A. Yes.

Q. And those figures are obtained in that way and not from any reports as to the net public supply that are furnished to the Department?

A. Yes, that is true.

Q. Now you testified that the Hope Natural Gas Company was confined in its operations to the State of West Virginia, and that this was likewise true as to the Reserve Company and the Pittsburgh and West Virginia Gas Company. The Hope Company, you know do you not, as also the Reserve, furnishes a large amount of gas to other companies that transport that gas into Pennsylvania and into Ohio and other states?

A. Yes, I know it.

Q. Then a large portion of the gas—a very large proportion of the gas produced by the Hope Company, is thus delivered to these other companies to whom it sells, which transport the same into Ohio and Pennsylvania and these other states?

2337 A. Yes.

Q. Now calling your attention to Exhibit No. 16, which purports to show the natural gas produced and acquired in West Virginia by the 7 companies mentioned, also the gas purchased by them, you obtained those figures, if I understand you, from reports of these 7 companies made to the Board of Public Works or to the Public Service Commission, did you?

A. Yes.

Q. Where did you get the interchanges as between these companies?

A. From the same sources.

Q. Do these reports show the amount of gas supplied by each one of these companies to the others?

A. They do.

Q. In other words, you attempted then, as I understand, to count that only once, charging it to one or the other of the companies and eliminating it from all others?

A. That is the effect of it.

Q. So that it would not be included in the total more than once, that gas would be accounted for with some one company and not again computed in your estimates?

A. Yes.

Q. And the amount: "Used and sold in field operations." What do you mean by that?

A. Well, substantially, that means gas that was used or sold in the field in the production of gas.

2338 Q. Now, it is not a fact that where an operating company, either one of the 7 or all of them, use portions of the gas which they produced in field operations, such as in the drilling of wells and cleaning out of wells and operation of their pump stations and compressor stations, etc., that they have no records that show the amount of that gas thus used?

A. Some of them have very complete records and keep it as closely as they do sales to the public. Others do not keep as close record of such gas.

Q. There is not included in this gas used or sold for field purposes, the so-called free gas; that is, the gas that is supplied under the terms of leases, to the owners—to the lessor or his tenants, who as a part of his contract of lease obtains this gas for his own or his tenant's use?

A. No, free gas is not included.

Q. And that is not in any way deducted from this general computation that you have made here?

A. It would not be included in the column one, the total produced.

Q. Why not?

A. Because it was not counted in the statement.

Q. Would it not be included in the reports of the company's total amount produced?

A. In some instances it would, and in others, not.

Q. Would it not in practically all of them?

A. It would not.

2339 Q. Do you not know that these free-gas consumers in the State of West Virginia under the orders of the Public Service Commission, are metered and have been since 1914 or 1915?

A. Well, in a general way, I think I could say that I know that, that is outside of my line of work, in a general way, I think that is true.

Q. And do you not know as a fact that these companies include in the statements made to the Commission and to the Board of Public Works all of the gas which they produce, including that which is thus distributed and known as free gas?

A. No, they do not make such showing in their reports to the Board of Public Works, one or two possibly, may.

Q. I do not mean necessarily that they made that showing separately or distinct from the total amount produced, but is there anything in their reports that indicates to you that that gas thus distributed to the free gas consumers was not included in the total production as reported by them to the departments—to the various departments of the State?

A. There is not, for the reason that the total—in the majority of cases the total sales of gas equals the total production of gas. If

they do make such return in the report to the Board of Public Works they include such gas as a sale of gas.

Q. Well, would it not be proper to include that as a sale of gas because it is one of the outlays which they make in connection with their payments for the right of supplying and operating the leases, where the leases so provide?

2340 A. That would depend wholly, Mr. Weil, on the system of bookkeeping or accounts which the respective company kept.

Q. That is undoubtedly true, and the only reason I am pressing this question is because I want to get from you, if I can, the statement that you do not know whether or not to include in the total amount of gas produced in West Virginia by these 7 companies this gas which these companies distribute under their contracts to what we commonly call free gas consumers?

A. As I stated before, these figures show the sales of gas by the respective companies, and do not include free gas. That information was, I might add—was available from one source or another for the year 1919, the last year but not for the prior years, and the figures given here do not include free gas.

Q. You are sure of that?

A. I am.

Q. Would you say that was true of the Manufacturers Light & Heat Company?

A. The Manufacturers Light & Heat Company did not show in its reports free gas.

Mr. Steptoe: What do you mean by that, the amounts used by lessors?

A. I do.

Mr. Weil: Q. Do you know whether or not many of these companies, or at least some of them, give gas to the parties from whom they obtain rights-of-way for their pipe lines in payment for

2341 such rights-of-way and charge such gas in their accounts to expense of operations?

A. No, I do not know what the custom is in that respect.

Q. And do you know that this amount throughout the State of West Virginia, for these 7 companies, aggregates a very substantial amount of gas thus delivered or sold and charged to the expense account instead of among their receipts?

A. Well, I have the figures, Mr. Weil, for the companies. I could give you the exact figures for most of them to be exact.

Q. Then you do know that that is a fact if you have the figures, do you?

A. Well, I would not want to answer that the quantity was so very great.

Q. I understood you to say before, perhaps I misunderstood you, that you did not know that that condition existed?

A. I answered in reply to your question as to whether they carried that gas into their accounts as expense.

Q. But you do know as a fact then that they do supply gas in that way to parties from whom they obtain rights-of-way for their pipe lines in West Virginia, you know that?

A. That they supply such gas?

Q. Yes.

A. I do. I might state that I have made investigations into at least one or two companies and know that they do not carry such gas in their expense accounts. That was in connection with investi-
2342 gations I have made in rate cases, especially the Hope Gas Company.

Q. You do not know as to some of the others?

A. I do not know as to their system of accounts regarding free gas.

Q. I call your attention now to statement made by you on page 34 of the record showing the total net supply for public service of natural gas produced within West Virginia and the total thereof of the 7 companies and the percentage of the net supply of the 7 companies to the total. Calling your attention to that statement you have put down as the total net supply for public service for each of the years 1911 to 1919, inclusive, the figures obtained by you as explained, after taking the total production, the amount used and sold in field operations as explained, and the amount used or marketed by private persons or enterprises as explained by you, and after taking that total production and deducting those two items you have adopted for the purposes of this calculation the total net supply for public service?

A. Yes, for all operations within the state.

Q. That is the way that you arrive at those figures?

A. Yes.

Q. And those figures would be subject to whatever, if any, corrections are applicable by reason of the facts and conditions which have been testified to by you heretofore?

A. Well, I think if it would appear that they are inaccurate in any respect, they should be changed to meet the exact situation.

2343 Q. You don't want to qualify them any further than you have already in your testimony which we have elicited this morning with reference to those figures?

A. I think my former answer would answer the last question.

Q. Have you any other qualification you want to make now? If so, make it.

Mr. Steptoe: Question is objected to; if counsel has in mind any specific matters, he should call the attention of the witness to them in order that the witness may have a fair opportunity to answer.

The Commissioner: Note the objection and let the witness answer.

A. I do not care to make any further qualification at this time, I do not mean to close the door, however, by this statement in the record as to further qualifications if it should appear that they should be made.

Q. These figures were obtained in part, as you have already explained, by these estimates of the gas used or marketed by private persons or enterprises for the years 1918—1910 to 1918, inclusive?

A. I expect I will have to ask you to amplify that question, Mr. Weil. I do not understand it.

Q. Well, you are using exactly the same figures for your net supply that you used on table on page 31-*b*, about which I examined you a few moments ago?

A. I did.

2344 Q. And therefore it is subject to all of the statements made with reference to that table?

A. Yes.

Q. And is not an independent or separate or distinct calculation for this purpose?

A. It is not, except as to the question of percentage.

Q. I am talking now, simply, of the total net supply, that was all that I was asking about. And you got your net supply of the 7 companies from Exhibit No. 16 offered in evidence in the case, which of course, would be subject to whatever explanations, etc., you have made with reference to the examination upon Exhibit No. 16, which was just completed?

A. Yes.

Q. And this table is the application of those two totals and the calculation of what percentage the one is to the other upon those figures?

A. Yes.

Q. Now in the table on page 36 of the record, in which you adopt the total net supply for public service that is used in these other two statements about which you have just been testifying, you have the column "Sales to West Virginia Consumers." Where did you get those figures?

A. From the same sources heretofore explained.

Q. What were those?

A. From the various reports and records which have been used.

Q. Now that does not include, does it, the gas that was

2345 used in West Virginia by these consumers to whom we have referred as free gas consumers; it does not include the gas paid for rights-of-way; it does not include the gas used in West Virginia by individual operators for their own uses and purposes; it does not include the gas used or sold for field purposes, does it?

A. It does not.

Q. It does not include the field gas, I think you stated that?

A. Yes, I so stated.

Q. In other words, in the sales to West Virginia consumers of forty-six billion feet for the year 1919, you have omitted the fourteen billion feet used and sold in—I am using round numbers, of course—the 14,000,000,000 feet and over used and sold in field operations and the 20,000,000,000 feet used or marketed by private persons or enterprises?

A. Yes, those are excluded.

Q. Now, then, if these items had been included, instead of 25 per cent, it would be pretty nearly double, would it not, for 1919—in round numbers, not exact?

A. Yes, I think it would.

Q. It would be a little less?

A. It would be considerably greater than it is.

Q. And, of course, that would apply to each of the subsequent years, whatever the proportions are?

2346 A. Yes. The exact percentage as to the year 1919, would be about 40 per cent under such conditions.

Q. Now, these same explanations, which we have just had, without going over them in detail, with reference to the statement showing the total net supply for public service of natural gas produced within West Virginia and total thereof furnished to West Virginia consumers would also apply to the statement on page 38 of the transcript where you have made a like calculation for the 7 companies?

A. Yes.

Q. Now, then, adding to your sales to West Virginia consumers for 1919, as given by you, of 29,360,811,000 feet, adding to that the 10,520,709,000 used or sold for field purposes as contained on Exhibit No. 16, would make that percentage for 1919 instead of 17 9/10 per cent., close to 40 per cent., would it not?

A. It would not.

Q. What would it make it?

A. Approximately 22 per cent.

Q. Suppose you figure that again and see if your are not mistaken about that. Add to your 29,360,811,000 the 10,520,709,000.

A. It gives you approximately 39,000,000,000.

Q. And what percentage is that of 164,000,000,000?

A. Well, that would not be the way to arrive at the percentage.

Q. What percentage would that be of 164,000,000,000?

2347 A. I could figure that but that would not give you what you are after. It would be apparent to you that you must add the 10,000,000,000 to the 164,000,000,000. It certainly would not be fair to use it in one case and not the other.

Q. Why not?

A. If it is to be considered as part of the sales to the consumer in West Virginia, it must be considered as part of the total supply.

Q. If it is used or sold to the consumer, why should it not be counted?

A. I say it should be considered as part of your total net supply and added to your 164,000,000,000.

Q. I don't care why it is added, but is it not a fact that this table 38, without this explanation and without calling attention to these facts, is absolutely misleading and conveys a wrong impression to the mind of any one who has not gone into all of these facts and figures?

A. That is a matter for the court to decide, not for the witness.

Q. You have put down on your table in 38 the sales to West Virginia consumers absolutely ignoring the other tables which you had already put in evidence showing used or sold for field purposes the item of over 10,000,000,000 feet. How is it possible for you to justify such a table, ignoring those figures, whether you put them on both sides or one side only?

2348 Mr. Steptoe: The question is objected to, in that the witness has fully explained the amounts referred to, what they were for and why excluded, in his prior examination, and the question now asked calls for a conclusion or opinion of the witness, which is wholly immaterial, the facts being in the record and showing for themselves.

The Commissioner: Note the objection and let the witness answer the question.

A. I think I stated, in connection with this statement, clearly what these headings mean. It would appear that Mr. Weil has overlooked the caption to this statement. I certainly have shown in previous testimony what we meant by the term "Total net supply." In reference to these figures shown on this statement, in the caption I explained this statement, showing the total net supply of these 7 companies and the total thereof furnished by the said 7 companies to West Virginia consumers.

Q. Is it not a fact, Mr. Nease, that this table as given by you on page 38, has omitted these figures to which I have called your attention for the express purpose of making it appear that the percentage of the total supply sold to West Virginia consumers was smaller than the facts actually warrant, and the testimony heretofore shows.

Mr. Steptoe: Objected to for the reasons already assigned.

The Commissioner: Note the objection and let the witness answer.

2349 A. That is not the purpose or purport of the exhibit and the testimony previously given in the case should show clearly what the purport of the exhibit is.

Q. You stated in computing the acreage, as shown on the table, 44-*b*, 44-*c* and 44, that you had not included—you said in making the computation you have not included the gas territory held by oil companies or the independent companies. We went into the question of the oil companies on yesterday, I will not repeat that, but what do you mean by the independent companies?

A. Independent producers.

Q. I don't mean exactly that, by independent producers, do you mean producers who are not connected with these companies, or who are indiv-ual producers?

A. No, I mean independent producers of natural gas not engaged in the public service business or producers as distinguished from those engaged in the public service.

Q. In other words, that is the territory held by individuals or companies who are not public service—who are not public utilities, that is what you mean?

A. Yes.

Q. And that is a very considerable amount, is it not?

A. Quite considerable.

Q. You have reports, I suppose, made to the department from which you could estimate what the—or calculate what the quantity actually is?

A. Yes, I have such information.

2350 Q. Could you give us that information as to the aggregate of such quantity?

A. That is in the record, has been put in. Qualifying my answer in response to this question, such information can be given for the calendar year of 1918, but a little time would be necessary in order to furnish it, even for 1918.

Q. And for 1918 you would take it from the report of the U. S. Geological Survey?

A. I would take the total acreage held in West Virginia from the U. S. Geological Report and deduct from that the acreage held by utilities within the State to get the acreage held by the independent producers.

Q. In your Exhibit No. 18, Mr. Nease, in the statement showing the number of consumers within West Virginia furnished natural gas by the Hope Company and the other 6 companies for the years 1910 to 1919, inclusive, divided into domestic, industrial and local utilities, you have not included in that the gas furnished, as for example, by the Hope or by some of these other companies to other utilities or companies transporting that gas outside of West Virginia?

A. I have not.

Q. This is supposed to be applicable solely to the domestic consumers, industrial consumers and local utilities then, within the State of West Virginia?

A. Yes.

2351 Q. This does not include either, if I understand you correctly, that gas which is supplied to the free gas consumers, which we have already defined?

A. It does not include free gas consumers.

Q. Nor does it include those consumers to whom gas is furnished as payment for rights-of-way, etc., which have already been referred to?

A. Not if they would be considered by the reporting companies as free consumers.

Q. Nor does it include gas supplied in field operations by any of these companies?

A. It does not include gas supplied to such consumers.

Q. In other words, the word "Industrial" here, as I understand it, refers substantially to manufacturing enterprises within the State, that general designation would cover it, would it not?

A. Yes.

Q. And the local utilities, what did you intend to comprehend by that title, what class, general class of consumers, or users, rather?

A. That would be the total sales to local utilities, the total number of local utilities to which gas sales were made.

Q. You mean by that other gas companies in the State which are supplying gas to others?

A. Yes, gas to the public.

2352 Q. Gas to the public. Such as, for example, a gas company supplying some town or some section of the public in the State?

A. Yes; it would not include sales to one or the other of these seven companies.
Q. It would not include gas, for example, supplied by the Hope Company to the Manufacturers Light and Heat Company for supply to the City of New Martinsville, West Virginia?
A. It would not.
Q. And the same would be true as between any of the companies?
A. Any of the seven companies?
Q. Yes.
A. It would.

Here a recess was taken until 1.30 o'clock, p. m.

2353 Supreme Court of the United States, October Term, 1919.

THE COMMONWEALTH OF PENNSYLVANIA, Complainant,

vs.

THE STATE OF WEST VIRGINIA.

THE STATE OF OHIO, Complainant,

vs.

THE STATE OF WEST VIRGINIA.

Before Levi Cooke, Esq., Commissioner.

Defendant's Testimony.

Afternoon Session, Friday, December 17, 1920.

2354 Friday Afternoon, December 17, 1920.

And now, the hour of 1.30 o'clock, p. m., having arrived, hearing resumed, pursuant to adjournment.

H. E. NEASE resumes the stand.

Cross-examination (continued).

Mr. Weil:

Q. Mr. Nease, calling your attention to your statement on page 57 of the record, "Statement showing miles of pipe line in use within West Virginia by the Hope Natural Gas Company, Pittsburgh and Western Gas Company, United Fuel Gas Company, Reserve Gas Company, Carnegie Natural Gas Company, Columbia Gas and Electric Company and Manufacturers Light and Heat Company, December 31, 1919," being the seven companies; that is, from 2 inches and over: From what source did you get this information?

A. That was taken from the tax return, or the returns made to the Board of Public Works.

Q. This, of course, is only, as the heading shows, the number of miles of pipe in the State of West Virginia?

A. Yes.

Q. And does not include the pipe lines of these companies connecting with the West Virginia lines at the State Line in Ohio, Pennsylvania, Maryland and Kentucky that are owned by the same companies, or some of them, and supply gas outside the State of West Virginia?

A. It does not.

Q. And have you any information as to the total mileage,
2355 including those outside the State of West Virginia?

A. I could get that information.

Q. Will you give it to us, please, if you have it convenient? In other words, I do not care particularly for the separate companies.

A. I believe I could get it possibly quicker separately than combined, or combined if you care for it.

Q. The Hope Natural Gas Company is first?

A. The Hope Natural Gas Company has no such lines.

Q. The next is The Pittsburgh and Western Gas Company?

A. That company has no such lines.

Q. And the United Fuel Gas Company is next?

A. The United Fuel Gas Company has 307 miles, approximately, of such lines.

Q. That includes both the 2 to 10 and the 10 inches and over?

A. It does.

Q. How many miles, did you say?

A. 307.

Q. How much has the Reserve?

A. The Reserve has no mileage outside the State of West Virginia.

Q. And the Carnegie?

A. The Carnegie has 434 miles of such lines outside of the State.

Q. And the Columbia Gas and Electric Company?

A. 125 miles. I might state this is not owned by the Co-
2356 lumbia, but is operated by it under lease.

Q. And the Manufacturers Light & Heat Company?

A. 2,422 miles in round numbers.

Q. 2,422?

A. 2,422, yes, sir.

Q. None of these, of course, include companies with which these respective companies, or any of them, could or to which they deliver gas?

A. No. No mileage of companies of that nature would be included.

Q. You know, do you not, as a matter of fact, that the Pittsburgh and West Virginia Gas Company is a subsidiary of the Philadelphia Company of Pennsylvania and supplies gas to the Equitable Gas Company, which supplies the city of Pittsburgh and vicinity.

A. I so understand it.

Q. And the Hope Natural Gas Company supplies gas to the East Ohio, of Ohio; the Peoples Natural Gas Company of Pennsylvania and the Fayette Natural Gas Company of Pennsylvania?

A. It does.

Q. Has not the Hope a line crossing the river which delivers gas to the East Ohio Company in Ohio?

A. Not to my knowledge. If it had such connection, unless it would be above low water mark it would be still in West Virginia.

2357 Q. Has it not such a connection above Moundsville which runs over to Ohio and delivers the gas on the Ohio side?

A. Not to my knowledge. From all reports it has ever made I would have to state that it had no property outside the State of West Virginia. It has so stated in its own statement. I also read the testimony of officials of the company in the case to the Public Service Commission to that effect.

(Mr. Steptoe:)

Q. To what effect?

A. To the effect it owned no property outside the State of West Virginia.

Q. Calling your attention to your Exhibit No. 19, where you give the amount of gas of the 7 companies furnished to domestic consumers, industrial consumers, local utilities and the total, then amount transported and sold for transportation to the other states—you have before you Exhibit No. 19, now?

A. I have.

Q. You have given there the domestic consumption, the industrial local utilities and the total furnished to West Virginia consumers by the 7 companies, also transported or sold to other states by the 7 companies?

A. Yes, sir.

Q. Now, that omits the gas used or sold for field purposes, does it not, in West Virginia?

A. Such gas is not included.

Q. This applies, of course, only to the 7 companies?

2358 A. It does.

Q. That also omits the gas furnished by these 7 companies to their free gas consumers, about which we talked this morning, and to those consumers who obtained gas as compensation for rights-of-way, does it not?

A. It does.

Q. In your direct examination your attention was called to the fact that the record of the Public Service Commission show the independent producers who sell gas to the 7 companies and the amount of gas they so sell, that is correct, is it not?

A. It is.

Q. And you testified that there were 212 of such producers, and that those records did not disclose where the independent producer

sells to these companies the gas by the sale of the well instead of selling the gas by the thousand feet, that is correct, is it not?

A. Do I understand you to mean where the gas well is sold to one of the 7 companies?

Q. Yes.

A. No, the records would not disclose information of that nature.

Q. You know, as a matter of fact, from your general knowledge, there are a number of sales of wells?

A. There are.

Q. To these companies by the different producers?

A. There are.

2359 Q. The statement which you placed upon the record, page 68, showing the productive gas wells within West Virginia, total of all producers and total of the 7 companies, and the percentage of the total owned by the 7 companies, I believe you said you got this data and information from the United States Geological Survey so far as the aggregates were concerned of all producers and as to the individual companies you obtained this from their report—or reports, rather? Now, I want to ask you if this takes into consideration the number of wells abandoned from year to year by these respective companies or the wells that are not in use, though owned by them, because of the amount of rock pressure being so low as to make it impossible to turn them into the lines?

A. This statement would not include abandoned wells. It does not purport to show information of that character. It does show the number of wells which the utilities, themselves, term "gas wells." They show such information as of December 31st, for the various years.

Q. Now then, you could not tell, for example, how many of those wells that were owned by those 7 companies, were wells held in reserve for emergency purposes, and which ordinarily would not produce gas into the lines against the line pressures? You could not tell that from the report, could you?

A. I could not.

Q. And you could not tell how many were thus held by the respective companies in which the gas volume or the rock press- had declined to such an extent that they were only used, if
2360 used at all, at long intervals? You could not tell that could you?

A. I could not, either for the 7 companies or the rest of the producers.

Q. As I understand you took all the other producers from the report of the Geological Survey?

A. I did.

Q. I call your attention now, to a statement headed (on page 71 of the transcript) "Summary of natural gas wells drilled within West Virginia by the Hope Natural Gas Company, United Fuel Gas Company, Pittsburgh and West Virginia Gas Company, Reserve Gas Company, Carnegie Natural Gas Company, Columbia Gas & Electric Company and Manufacturers Light & Heat Company" (being the 7 companies) "1910-1919" which purports to show the number of

productive gas wells January 1st; the number of dry holes; wells drilled; dry holes drilled and total num-er drilled; the number of wells purchased and transferred and those that were productive on December the 31st. This list does not take into account, does it, those wells which these respective companies drilled down deeper in the lower producing areas, so as to increase their production of gas?

A. Well, it would in this case—if a well had been treated as an abandoned well——

Q. I am not speaking of those wells that have been abandond or have been reported as abandoned.

A. That would not change the status in that case, it would be a gas well yet.

2361 Q. But it would not show the operation of the companies in that respect, would it—these statements?

A. If you mean the deepening of a well that was already considered as a gas well—it would not.

Q. You know that many of these 7 companies had a large number of such wells that were so treated, or were drilled deeper into the lower producing sand areas and the production of which was thereby increased?

A. I have not any definite advice or information as to that.

Q. For example, do you know that the Manufacturers Light & Heat Company, so far this year, has drilled down over 38 of such wells?

A. I do not know that.

Q. At any rate, such operations would not appear on this statement as I understood you to say?

A. They would not, unless as I said before, they had been treated as abandoned wells or dry holes.

Q. When did the Public Service Commission adopt the requirement of these companies to report in their annual or monthly reports the amount of gas imported into the State?

A. The Public Service Commission reports you are referring to?

Q. Yes.

A. I am not able to answer that question.

Q. You do not know when that was adopted?

A. No.

2362 Q. That has been in vogue some years?

A. To the best of my knowledge, it has been some two or three years. Such information has always been required or required for a great many years by the Board of Public Works.

Redirect examination.

(By Mr. Steptoe:)

Q. On cross-examination, counsel asked you to produce monthly reports for the various companies listed as public utilities under your statement. Have you produced those statements, and have you them present?

A. I have such statements in my possession.

Q. Have you been ready, at all times, to answer any question in respect thereto, that counsel for complainant states might desire?

A. I have.

Q. Some confusion appears, at least to my mind, with respect to your examination on the amount of West Virginia gas assigned in your statements to the Manufacturers Light & Heat Company. To clear that up, will you please state where and how you obtained the amount of West Virginia gas which you assigned on Exhibit No. 16, and connective exhibits, *a* to *i*, inclusive? To give a specific example, take Exhibit 16-*a* and tell us how you arrive at the figures shown for the Manufacturers Light & Heat Company under the heading "Produced in West Virginia" and under the heading "Purchased in West Virginia"?

2363 A. The figures were taken from the reports heretofore referred to, and were furnished by the Manufacturers Light and Heat Company in making such reports.

Q. You refer now to the annual reports made to the Board of Public Works and to the monthly statements made to the Public Service Commission?

A. I do.

Q. Does the Manufacturers Light and Heat Company in its report undertake to state definitely and certainly that that amount was produced in West Virginia or was purchased in West Virginia?

Mr. Weil: The question is objected to as being incompetent, irrelevant and immaterial, and not the best evidence, the report itself being the only evidence of what the report shows.

The Commissioner: Let the objection be noted and the question answered.

Q. You may consult the last annual report of the Manufacturers Light and Heat Company made to the Board of Public Works of West Virginia in making them.

Mr. Weil: This question is objected to for the same reason, and unless the witness reads into the record exactly what the report shows.

The Commissioner: Let the objection be noted and the question answered.

A. On page 53 of the return to the Board of Public Works the Manufacturers Light and Heat Company states the following: "The estimated gas production available from wells owned by the

2364 Manufacturers Light and Heat Company, computed on the first minute rise above line pressure, showing number of cubic feet available under conditions existing at time guages were taken, on December 31st, total was, all states, 68,693,000 cubic feet. Estimated West Virginia 20,022,000 cubic feet." I understand the company in making its reports based its estimate for West Virginia in that year. Now, as to the exact figures for 1919, as shown in the exhibits referred to or the statements referred to, such figures were taken from the monthly reports submitted to the Public Service Commission by the company in which such information was shown.

Q. And have you in the statements used the figures that the Manufacturers Light and Heat Company so gave?

A. I have.

Q. Reference was made on cross-examination to a large amount of gas used by Godfrey L. Cabot in the carbon business. Do you or do you not know anything touching sales by Cabot of his carbon productions instead of using it in the manufacture of carbon?

A. You mean carbon productions?

Q. Yes.

A. I do not just understand what you mean by that term.

Q. I mean by carbon productions that he used the gas formerly used to manufacture carbon.

A. I had from officials of the Hope Company a statement——

2365 Mr. Weil: I object to hearsay evidence of this character: what officials of the Hope Company said to the witness as being incompetent and not proper evidence.

The Commissioner: Let the objection be noted and the answer continued.

A. (continued). I think I could state that I am aware of the fact that the Hope Company has had negotiations with Godfrey L. Cabot for the purchase of large quantities of his gas lying principally in Calhoun County, and have constructed a large pipe line into said county in order to get such gas.

Mr. Weil: I move to strike out this evidence as being glaringly hearsay and incompetent.

The Commissioner: Let the motion be noted.

Q. Mr. Nease, there is an inspection department connected with the Public Service Commission?

A. There is.

Q. I believe you said on cross-examination that that department gets up statistics annually, but there is no connection between your office as statistician and the inspection department statistics?

A. I so stated.

Q. The records which you have used in making up your statements and exhibits, especially the returns of the utilities to the Board of Public Works, are public records, are they?

A. They are.

Q. And the monthly reports which you refer to, are they
2366 open to the public also?

A. Well, I would consider that they are. I do not know of any restrictions against their being used in such a way.

Q. Are the inspection department statistics published?

A. To some extent.

Q. Where do they appear?

A. They would appear in the annual reports of the Public Service Commission.

Q. Do you know whether the inspection department statistics undertake to show, or do show, definitely and clearly the quanti-

ties of gas produced in West Virginia which are exported, or whether they undertake so to do?

A. Not without referring to the reports.

Q. In preparing your statistics and statements in this case, which were filed by you, on direct examination I believe you stated that you used primarily these monthly reports and the Board of Public Works reports, and occasionally other information, such as the United States Geological Survey reports.

A. I so stated.

Q. In the preparation of those statements, I wish you would say whether or not you were requested by counsel for the defendant State to show separately, as you have done, the interchanges; the amounts used for field purposes; the amounts consumed, or the amounts produced and consumed by private enterprises?

2367 A. I was.

Q. And in making the statements in that form you were following the request of defendant's counsel?

A. I was.

Q. And whether that produced a net public supply that is fair or unfair, right or wrong, is a question to be determined from the facts shown, as I understand you?

Mr. Weil: The question is objected to as an argument by counsel to sustain their own unfairness.

The Commissioner: Let the objection be noted and the question answered.

A. Yes.

Q. Now, with reference to the Ohio Fuel Oil Company and your failure to include this company and its acreage in your statement shown on page 44-*b* of the record. Let me ask you whether the Ohio Fuel Oil Company markets gas to the United Fuel Gas Company?

A. It does; practically its entire production.

Q. And does the Pure Oil Company market its gas to any company other than the Mountain State Gas Company?

A. It does.

Q. What other company?

A. The United Fuel Gas Company.

Q. How would the amounts marketed to the Mountain State Gas Company compare to the amounts marketed to the United Fuel Gas Company, as far as you can recollect?

A. A very much greater quantity would be marketed to the United Fuel Gas Company.

2368 Q. Is the Pure Oil Company the same as the former East Ohio?

A. The former Ohio Cities Gas Company.

Q. Is there any affiliation between those two companies?

A. Which two do you refer to?

Q. I mean the Pure Oil and the Ohio Cities Gas Company, and the Ohio Fuel Oil Company.

A. Not to my knowledge.

Q. Was there any affiliation between the South Penn Oil Company and the Hope Natural Gas Company?

A. They are both Standard Oil concerns.

Q. You have on several occasions referred to information obtained from the United States Geological Survey, and in some cases used its figures. Can you tell me if the total production as shown in your statement on page 31-*b* of the record is taken from the Geological Reports?

A. For the years prior to 1918.

Q. Do you know whether the Geological Reports include in their totals the production or amounts used in field service and the amounts marketed or produced by private persons?

A. They are supposed to include those items.

Q. In your figures for the year- 1918 and 1919, under that heading you included the same items?

A. With the exception, as has been explained heretofore.

Q. Referring again to the Ohio Fuel Oil Company, ex-
2369 cluded from your list of gas utilities in West Virginia: Have you the report of that company for the year 1919?

A. I do not have the Ohio Fuel Oil Company right at hand. I could get it within the next few minutes.

Q. Suppose you send for it. When it comes in, will you be able to give us the gas territory reported by that company, if any?

A. I will.

Q. If I correctly understood you on yesterday, there is no report either to the Board of Public Works or to the Public Service Commission disclosing the acreage of the South Penn Oil Company.

A. There is not.

Q. And the same is true with reference to such reports as you have from the Owens Bottle Machine Company?

A. Yes. It occurs to me that I should state here that the production of the Owens Bottle Machine Company has been treated by me through all these reports as industrial sales. The reason I am making this statement is because in speaking of independent producers using their own gas, which I had not included, Mr. Weil in propounding a question included the name of this company as one of such companies. I overlooked clearing the record *of* that respect at the time the question was propounded.

(Mr. Weil:)

Q. The gas furnished by the Owens Bottle Machine Company from its own production to itself in its own manufacturing
2370 plant, as I understand you, now included in these respective reports, etc., wherever you refer to industrial companies you include such industrial companies, and as a part thereof?

A. Yes.

Q. Was there any gas furnished domestic consumers by the Owens Bottle Machine Company?

A. To my knowledge there was not. If so, a very small quantity, but I do not recall that any was furnished.

Q. If any was furnished, would it be included under the domestic consumption accounted for in your various statements?

A. It would.

Q. I do not just understand a part of your cross-examination with reference to the statement of total acreage in West Virginia, Ohio and Pennsylvania, shown on page 44 of the record. Does the acreage there shown include all acreage held under lease or owned for gas purposes, or simply the acreage of public utilities?

A. No, it includes all acreage of all producers.

Q. Did I understand you to say that that statement is taken from the reports of the Geological Survey?

A. It is.

Q. Then, on page 44-*b* your statement shows the acreage of the natural gas utilities in West Virginia?

A. It does.

Q. Let me direct your attention to the statement on page 57, giving the mileage of pipe lines within West Virginia, and direct
2371 your attention to the fact that you are there accounting for pipe lines in size 2 inches and over, and ask you to compare it with the last annual report of the Manufacturers Light and Heat Company and see if you desire to make any correction in your figures.

A. In making this investigation it appears that pipe line under 2 inches was included in the figures.

Q. How much? Can you make your correction here?

A. The figures shown by me in that statement filed were 532 miles, from 2 to 10 inches, and 257 miles, all 10 inches and over, making a total of 789 miles. The exact amount shown by the report of size 2 to 10 inches should be 520 miles. 12 miles, approximately, of pipe under 2 inches have been included in the figures shown in the statement.

2372 Q. Then, to get the matter straight, you desire to change the number of miles of pipe line charged to the Manufacturers Light and Heat Company in the statement on page 57 from 532 to 520?

A. Yes. And the total should also be changed to 777 miles, and the grand total for all companies of sizes 2 to 10 inches should be changed to 5,326 miles. The grand total of all pipe line two inches and over should be changed to 7,606 miles.

Q. One other place in your cross-examination which is not clear relates to the number of independent producers. You speak of there being 212 independent producers. Do you mean in giving that number to give the total number of all independent producers operating in the State of West Virginia, or the number who are selling to the seven companies?

A. The number who are selling to the seven companies.

Q. And again, I understood you to state that your statement and the records in your office did not disclose the fact where a well was sold by an independent producer to one of the utilities. Is that correct?

A. Yes, that is correct. While it would not show,—it would show the number of wells sold or purchased yet it would not show to whom the well was sold or by whom purchased.

Q. Calling your particular attention to the statement on page 71, relating to wells, under the heading "Purchases Less Sold and Transferred," are the wells purchased by the seven companies from
2373 any source taken care of under that heading?

A. They are.

Q. Have you given the total number purchased or the net purchased? Explain that.

A. I have shown in that column the net gain to that company for each of the respective years.

Q. Just what do you mean by "net gain"?

A. The excess in the number of wells purchased from those sold and transferred.

Q. In other words, a company would sell some wells and buy others?

A. Yes.

Q. And you have taken the difference where it was a gain?

A. Yes. In every instance it showed a gain for each of the years. The statement shows the net gain for the period.

Q. I believe you now have in your possession the report to the Board of Public Works for the Ohio Fuel Oil Company?

A. I have.

Q. What is the acreage returned by that company for gas purposes?

A. The company reported as having, as of December 31st, 1919, 59,728 acres of undeveloped leases and 1,728 acres of developed leases within the State of West Virginia.

Q. Does that report show the total amount of gas marketed?

A. It does.

2374 Q. Will you please state the total amount marketed and then give us the parties to whom the gas is marketed and the amounts?

A. During the calendar year 1919 the company marketed, according to its report, a total of 322,802,000 cubic feet, of which amount 6,063,000 cubic feet was marketed to 47 domestic consumers; 11,482,000 cubic feet to oil producers for drilling wells and 315,256,000 cubic feet to the United Fuel Gas Company. I would like to amend that answer: The figures given were the total sales of that company, both within and without the State of West Virginia.

Q. What are the sales within West Virginia?

A. The sales within West Virginia, all of the domestic sales, as stated above, all of the gas reported to have been sold to the United Fuel Gas Company, and 8,262,000 cubic feet to oil producers for drilling wells.

Q. You were further interrogated by Mr. Weil as to why you did not include in your "Statement of Sales to West Virginia Consumers," shown on page 38 of the record, the quantities of gas shown in your earlier statement as used by the seven companies in the drilling of wells and other field service. Let me ask you if, in

your Exhibit No. 19, showing the amount of gas transported or sold for transportation to other states, you included the quantities used in field service?

A. I did not.

2375 Q. In other words, the quantities transported or sold for transportation to other states is net and you have not charged the amount used in field service to either the sales to West Virginia consumers or to the exporters?

A. It is not included in either event.

Q. Are the deliveries to other consumers included under the heading "Sales to West Virginia Consumers" or under the heading "Gas Transported"?

A. They are not.

Q. Would the same be true with respect to the free gas delivered in consideration of rights-of-way referred to by Mr. Weil?

A. Yes.

Q. Those figures would be included?

A. They would not be included.

2nd recross-examination.

(By Mr. Weil:)

Q. Mr. Nease, I want to call your attention to the report, for example, of the Manufacturers Light and Heat Company from which you read, and, on page 7, where the question is asked "What was the total daily capacity at the end of the year of the gas wells owned, total in all states and in West Virginia, stated separately"; and the explanation given, on page 53, and page 7, under "Explanatory Remarks:" "Do not understand what meaning is to be taken

2376 from daily capacity. The estimated gas production available from wells owned by the Manufacturers Heat and Light Company, computed on the first minute raise above line pressure showing the number of cubic feet available under conditions existing every day at time gu*a*ges were taken on December 31st was, all states, 68,693,000 cubic feet. Estimated West Virginia, 29,022,000 cubic feet." You used those figures, did you, in computing on your statements or amounts?

A. I did not.

Q. What figures did you use?

A. I used the figures shown on the monthly reports. I stated that I thought that was the method that the company used in arriving at the West Virginia production, as shown by the monthly reports.

Q. You understand, then, that the company adopted this method of making its computation for the purpose of its monthly reports, did you, of the amount of gas that was supplied from West Virginia and from other states?

A. I thought that was the method they used.

Q. You know, as a matter of fact, that these computations would vary, as stated here, in accordance with climatic and other conditions,

depending upon the time when, and the date when, these computations were made?

A. I did.

Q. So that, if those figures of production are obtained in that way, it is not figures obtained from actual deliveries but
2377 from computation based upon this method of arriving at the amount?

A. I so understood; and the company has always taken the position that they could not say definitely the amount of delivery.

Q. And adopted this method of making an estimate?

A. I so understood.

Q. Now, you said that the Hope Natural Gas Company and the South Penn Oil Company were both Standard Oil companies?

A. Yes, I so state.

Q. Do you not know, from the published reports of the decisions of the Supreme Court of the United States, in the Standard Oil dissolution, that the stock of the South Penn Oil Company was distributed among individual stockholders and is not owned or controlled by either one of the Standard Oil companies, but is a separate and distinct corporation and has been for twelve years, since that order was made by the Court?

A. I know that is true of all the constituent oil companies of the Standard Oil Company of New Jersey, but, notwithstanding that fact, the stock of the Hope Company is owned by the Standard Oil Company of New Jersey.

Q. Do you not know that the stock of the South Penn Oil Company is not owned by any one of the Standard Oil Companies, either of New Jersey or of New York, but is owned by the individual stockholders?

A. Well, I do not understand that control of the South
2378 Penn Oil Company has ever passed from the Standard Oil Company of New Jersey.

Q. Why have not you understood so?

A. I have no advice as to that.

Q. What information have you to the contrary?

A. None.

Q. And if the stock is, in accordance with the order of the Court, and if the stock has been, in accordance with the order of the Court, distributed among the individual stockholders, and not held by either one of the Standard Oil Companies, then, of course, the control of that company would be in the majority of its stockholders, whoever they were, would it not?

A. Yes, nominally that situation might exist and at the same time the control be vested in the New Jersey corporation.

Q. How?

A. The stockholders might hold the stock for the New Jersey corporation. That is a very common practice, Mr. Weil.

Q. If they hold the stock in trust for the New Jersey corporation do you think that would be a compliance with the order of the Supreme Court.

Mr. Steptoe: The question is objected to on examination as calling for an answer of the witness which manifestly must be a legal conclusion of an interpretation of a decree of the United States Supreme Court.

2379 The Commissioner: Let the objection be noted and the question answered.

A. Well, I have never heard it denied by anybody that the stock of the Hope Company is not under the control of the Standard Oil Company of New Jersey. It was one of the constituent companies. I take it that, under the order of the Court, it is nominally held by the individual stockholders; but that does not necessarily mean that the control has passed from the Standard Oil Company of New Jersey. I do not think anybody would argue that it has passed, except nominally, from the Standard Oil Company of New Jersey. That same situation could exist as to the South Penn Oil Company, although there might be a greater number of stockholders. I should say it would be a compliance with the order of the Court if the nominal stockholders directed the affairs of the constituent companies that were broken up.

Q. As a matter of fact, Mr. Nease, do you know anything about it, as to who holds the stock, where the control is or anything else with reference to the operations of the South Penn Oil Company or of the Hope Natural Gas Company?

A. I have no definite information on the subject at this time.

Q. Do not let us qualify it by the word "definite." Have you any information at all on this subject? Are not you just giving your guess or conclusion without any definite information on which to base it?

A. Well, as I stated, I have no definite knowledge on the
2380 proposition. That is as fully as I would care to answer. I can qualify the statement by saying that I have not seen the stock records.

Q. I beg your pardon.

A. I have not seen the stock records of the South Penn Oil Company. I believe, if I am not mistaken, that the stock of this company is sold as a subsidiary of the Standard Oil Company on the curb market.

(Mr. Steptoe:)

Q. You mean listed?

A. Listed.

Q. Did any of these other companies make up their reports as to the quantity of their production in West Virginia and in other states in the same manner and by the same method of computation as did the Manufacturers Company?

A. They did not.

Q. Was it not understood with the Public Service Commission or the Board of Public Works that they could make up their statements and estimates in that way?

A. It was.

An adjournment was here taken until Saturday, December 18, 1920, at 9.30 o'clock a. m.

2381 Supreme Court o fthe United States, October Term, 1919.

THE COMMONWEALTH OF PENNSYLVANIA, Complainant,

vs.

THE STATE OF WEST VIRGINIA.

THE STATE OF OHIO, Complainant,

vs.

THE STATE OF WEST VIRGINIA.

Before Levi Cooke, Esq., Commissioner.

Defendant's Testimony.

Morning Session, Saturday, December 18, 1920.

2382 Saturday Morning, December 18, 1920.

And now, the hour of 9:30 o'clock, a. m., having arrived, hearing resumed, pursuant to adjournment.

CHARLES E. KREBS, called as a witness, having been first duly sworn, testified as follows:

Direct examination.

(By Mr. Blue:)

Q. State please, your name, your age, residence and your profession.

A. Charles E. Krebs, 50 years, Charleston, West Virginia.

Q. Your profession?

A. General engineer and geologist.

Q. State your academic preparation for your profession.

A. I was student in a high school at New Martinsville, West Virginia, until 1886, after which I taught school for 3 years, and in 1889 entered the West Virginia University, and graduated there in 1894 with degree of bachelor of science in Civil Engineering.

Q. Following your graduation from the University of West Virginia, what did you engage in?

A. From 1894 until 1895 I was transit man on the railroad, survey and topographic work, in West Virginia. In 1895 and 1896 I was resident engineer on the construction of railroad, known as the Charleston, Clendenin & Sutton. It is now known as the
2383 Coal & Coke and owned by the Baltimore & Ohio Railroad. In 1897 until 1900 I did general engineering work and con-

struction work and also prospecting and developing coal properties. In 1900 I became a member of the firm of Clark & Krebs, civil and mining engineers, and for the next five years did a general mining, engineering and development work of coal properties in Fayette, Kanawha and Raleigh Counties, West Virginia. In 1905 I was appointed by the Governor of West Virginia as a member of the Board of Examiners of district mine inspectors and still did my work as mining engineer. In 1906 I was appointed on the staff of a Board of Examiners of Mine Foremen for West Virginia, and from there on until 1909 did a general engineering work in the development of coal properties. In 1909 I was appointed as assistant state geologist to Dr. I. C. White of the West Virginia Geological Survey, and I was assistant to Dr. White until 1915. My work consisted in gathering data for detailed geological reports that were published by the West Virginia Geological Survey under the direction of Dr. I. C. White, and along that line in 1911 I furnished the manuscript of a detailed geological report of the Counties of Jackson, Mason and Putnam and submitted that to Dr. I. C. White, State Geologist, for publication, and it was published shortly after. In 1913 I submitted the general information gathered in the field in manuscript form for the detailed geological report of Cabell, Wayne and Lincoln Counties and this was published shortly after. In 1914 I gathered the data for detailed geological
2384 report of Kanawha County and submitted the same to the state geologist, Dr. I. C. White, for publication and same was published shortly thereafter. In 1915 I gathered the general detailed report data for geological report of Boone County, West Virginia and same was submitted in manuscript form to Dr. I. C. White for publication. In the latter part of 1915 and early part of 1916, I completed the geological work in the field and gathered the data together in manuscript form of Raleigh, Mercer and Summers counties, of West Virginia. During the period 1909 to 1915 my work took me over a part of the State of West Virginia, having done some work in Wood County, some in Ritchie County and some in Pleasants County, also in Clay and Roane Counties, West Virginia. In 1916 I took up the general geological work leaving the West Virginia Geological Survey, and during the year 1917 my work was in West Virginia, Ohio and some of Kentucky, in which I did considerable work in studying the general structure, of oil and gas, for different operating companies. In 1918 I continued on the same work in West Virginia, Ohio and Kentucky. In 1919 I worked along the same line in Ohio, West Virginia, Kentucky, Texas and Louisiana. In 1920 I am still continuing the same that I have and have during the past year done work in West Virginia, in Ohio, Kentucky, Texas, Louisiana, Mississippi, and a little work in Florida.

2385 Q. To what, in particular, did the data collected by you in the years 1911 to 1916 relate?

A. It related to the general—the study of the general structure of the different counties of West Virginia, making our structural maps on which we indicated the anticlines and synclines, and in

gathering data for oil and gas wells, their records, elevations, studying the sands where we could get production.

Q. You mean the oil and gas sands?

A. Yes, and also in making examination of the coals, taking samples and making analyses of the same.

Q. You have stated that the reports of your examinations were submitted to Dr. I. C. White, the State Geologist. When you submitted them to Dr. White, what did he do with them and what finally became of the written reports or the substance of your written reports?

A. Dr. White went over these reports, read them, and where he felt that the facts were possibly stated a little different from what we had stated them, he would use a blue pencil on some points; or in other words, he O. K.'d our work after making such corrections as he saw were necessary.

Q. And then were those reports published?

A. They were.

Q. In what publication?

A. In the West Virginia Geological Survey publications.

2386 Q. What is the West Virginia Geological Survey Department, what do you mean by that?

A. The West Virginia Geological Survey is a branch of the—I don't know whether you would call it of the utilities or of the state officials of the state, in which we have an organization with a state geologist and several assistants, in which they are gathering, collecting and publishing data from time to time on the geological work of West Virginia and getting it in form for use for the public for distribution and for sale, and the publications have been commented on by a number of state geologists that personally told me that they were the best publications of any state in the union.

Q. These publications are in book form?

A. They are.

Q. Permanently bound?

A. They are.

Q. Printed at the expense of the State of West Virginia as public volumes?

A. Yes, sir. This is the form of the book (indicating book).

Q. So your work with the West Virginia Survey has brought you into actual personal experience and examination with and of the minerals of West Virginia, including the oil and the gas?

A. Yes, sir. And particularly oil and gas owing to the fact—

our theory of anti-clines and syn-clines, we attempted to

2387 study the structure carefully, and make structural maps showing the location of these anti-clines and syn-clines, also the probable location of oil and gas pools.

Q. Does the West Virginia Geological Survey publish or has it been publishing maps showing the results of the labor of yourself and others connected with the Geological Survey?

A. It does. Each detailed report usually has three maps accompanying the same, one a topographic map of the work embraced in the survey, the other this same topographic map with the

location of the oil and gas wells on same, the out-crops of the coal seams and the anti-clines and syn-clines and their structure that is found in the study of the work in the field, and the third map is a soil map that is made under the direction of the United States government, showing the different soils in the area studied.

Q. Are these maps published and are they of a public nature?

A. They are.

Q. Do you know whether they are usually relied upon by those engaged in or proposing to engage in the business of mining coal, and oil and gas?

A. They are.

Q. You have stated that in 1914 you gathered data and made report for Kanawha County. I wish you would state, if you can, whether the work—the work and the things indicated by that report, have since been verified by actual experience.

2388 A. It has. The map especially that we prepared showing the structure of the County of Kanawha. At that time there was very little development in the oil and gas except in the Blue Creek field of West Virginia. The great Cabin Creek field nor the Kelly's Creek field had not been discovered. The structural map made by our survey under my work and direction showed the general structure of the Cabin Creek field, also of the Kelly's Creek field. Since that time a number of wells have been drilled in the Cabin Creek field, also in the Kelly's Creek field producing oil and gas and the structure has appeared verified as shown by our survey previous, before any development was made.

Q. Of what size and importance is this Kelly's Creek field that you refer to?

A. The Kelly's Creek field covers, its oil and gas covers, an area of several thousand acres. The oil drilled so far does not cover a very large area but has produced a considerable quantity of oil.

Q. Of what importance or size is the Cabin Creek field?

A. The Cabin Creek field is at this time possibly one of the largest developed oil fields in West Virginia. The Berea sand which is producing the oil has been developed for a distance in a northeast and southwest direction of more than ten miles, from the waters of, almost Kanawha River and across the divide of Cabin Creek and Paint Creek beyond the waters of Coal River, and the sand

2389 appears to be very rich, and being fine grained has a long life to its production.

Q. Is the field large enough to justify the establishment of any refinery or other manufacturing establishment in respect to oil?

A. Yes, there is a large refinery built near the mouth of Cabin Creek just a little bit to the north of the oil field.

Q. By what company?

A. By the Pure Oil Company, formerly the Ohio Cities Gas Company.

Q. Do you know the capacity or the size of that refinery?

A. I cannot give the exact size, but it has a capacity of from 5,000 to 10,000 barrels of oil per day.

Q. Refined oil?

A. Crude oil to be refined.

Q. Do you know whether any of the other work that you did in the years you have referred to from 1911 to 1916 has been since verified or demonstrated by experience?

A. It has in a number of counties where I have worked, Jackson, Lincoln and Wayne Counties, and during that time—I also have made then and since the location of a number of wells, oil and gas, for clients for myself, — of mine.

Q. I was going to ask you that question, whether independently of the development of those fields that you have indicated in your structural maps and reports, what your experience has been as an engineer, geological engineer for others engaged in or pro-

2390 posing to engage in drilling for oil and gas.

A. On the data from those maps I have made a number of locations for oil and gas for different operating companies.

Q. Is that part of your work at this time?

A. It is.

Q. You referred also to work that you did in Ohio and your study of oil and gas structures in that state. Will you state in a brief way the general character and the locations in Ohio covered by your work?

A. I did considerable work for the Logan Natural Gas Company and the Preston Oil Company of Columbus, Ohio, and in that made locations, and studied the structure and the general data from a point 60 miles south of Cleveland in a southwest direction through Ohio to practically the Ohio River, and made some locations for oil and gas wells for them.

Q. You have also referred to general geological work, the study of oil and gas structures in the State of Kentucky. Will you give in a brief way the character of such work and the locations in the State of Kentucky examined by you?

A. I did the same kind of work in several counties of Kentucky, among which are Breathitt, Johnson, Magoffin, Lawrence and Martin Counties, and I worked for several companies, among which are the Preston Oil Company, did some work for them there.

Q. About how long were you engaged in the work in Kentucky?

A. I have been off and on at different intervals for the last

2391 ten years working in Kentucky at different times, studying the coal and the oil and gas, oil and gas particularly for the last 5 or 6 years, through different sections.

Q. For what persons or company did you make these examinations and do such work in the State of Kentucky?

A. For a number of different persons, clients, one of them being the Logan Natural Gas Company or the Preston Oil Company, and then for different clients, for smaller companies.

Q. You have also referred to general geological work in the States of Texas and Louisiana. Give just in a short way the localities of Texas and the character of the work you did and for whom.

A. The work done in Texas was principally for a company that I was interested in myself, the Chesapeake Oil & Gas Company. I

made a location and looked after the drilling of a well in Wichita County about five miles northwest of Burkburnett. We drilled in three wells on my location there. Then I also studied the structure in several counties in Texas, among others being Eastland, a little in Limestone County and in Harrison County, Texas, and that was the main points that I did my work in, in Texas. In Louisiana I did some work for a client in the Homer oil field, or rather, condemned some property there for him, which since has proven that it was of no value as oil and gas property, and I made location for oil, or rather for gas, about 30 miles south of Shrevesport
2392 along the Red River for Godfrey Cabot as a carbon plant, and some wells have been drilled there since.

Q. What was the result of the drilling of the wells in Texas upon the location referred to by you.

A. The 3 wells that we drilled there came in producers for oil and gas and are still producing.

Q. You also referred to work that you have done in the states of Mississippi and Florida, state, please, in what parts of Mississippi and Florida you worked, and the character of the work and for whom.

A. I worked for one of my clients, a large company studying the structure from a point about 100 miles north of Jackson, Mississippi, south to Jackson, Mississippi, and made one location that I understand they are drilling on at this time.

Q. How about Florida?

A. In Florida I studied the structure for a small concern who have land adjoining to wells, that is being drilled down there, has been drilling for the last year near Chipley, Florida.

Hearing adjourned to be resumed on the 4th day of January, 1921, in the United States District Court Room, Charleston, West Virginia, all other and further notice thereof being waived by counsel for the respective parties.

2393

ORIGINAL, #20 & #21.

THE COMMONWEALTH OF PENNSYLVANIA, Complainant,

vs.

THE STATE OF WEST VIRGINIA.

THE STATE OF OHIO, Complainant,

vs.

THE STATE OF WEST VIRGINIA.

Before Levi Cooke, Esq., Commissioner.

Proceedings of January 6-8, 1921.

Morning Session, Thursday, January 6, 1921.

Defendant's Testimony.

2394 By agreement of counsel the hearing set for the 4th day of January, 1921, was continued until Thursday, the 6th day of January, 1921, at ten o'clock, a. m., to be then resumed at the United States District Court Room, in the City of Charleston, West Virginia.

Thursday Morning, January 6, 1921.

Pursuant to adjournments heretofore noted hearing was this Thursday, the 6th day of January, 1921, resumed, at the hour of ten o'clock, a. m., in the United States District Court Room in the City of Charleston, West Virginia.

Appearances:

On behalf of the Commonwealth of Pennsylvania, A. Leo Weil, Esq.
On behalf of the State of Ohio, Freeman T. Eagleson, Esq.
On behalf of the State of West Virginia, George M. Hoffheimer, Esq., Philip P. Steptoe, Esq., Fred O. Blue, Esq.

2395 CHARLES E. KREBS, a witness on behalf of the State of West Virginia at the time of the adjournment of the 18th day of December, 1920, resumed the witness stand.

Direct examination (con'd).

(By Mr. Blue:)

Q. Are you acquainted with the work of the United States Geological Survey?

A. I am.

Q. State in a few words what the United States Geological survey is, what it means, and what it does.

A. It is a department organized under the Department of the Interior of the United States, with its main office at Washington, D. C., and in its organization it has a Director of said Survey, and different employes, geologists, auditors, and engineers, etc. Its purpose is to make surveys, topographic and otherwise of the boundaries of the holdings of the United States and this is scattered over the entire United States. They furnish maps, reports and other data pertaining to different parts of the United States, and the purpose is to eventually map the entire United States in topographic form. Some states have joined in with them by appropriation and assisted so as to get their states mapped up sooner than would be done if it were dependent upon the moneys furnished by the United States. This is true of West Virginia. For the past twenty years the legislature has each year appropriated a certain sum of money that is expended in conjunction with the United States Geological
2396 Department in making topographic maps of the state; that is, assisted the State of West Virginia in getting accurate surveys of the different portions of the state, so that there is practically less than twenty per cent of West Virginia now that is not surveyed on the scale of one mile equals one inch, in topographic work. The United States Geological Survey also has made different geological surveys of West Virginia, and especially one part of their work is the compilation of the mineral resources of the United States. This comprises the production of gold, silver, all the precious metals, all coals, salt, iron, and oil, gas, and the by-products of the different minerals that are produced in the United States. These compilations are published by said survey annually and are for distribution among the people of the United States.

Q. Who is the director of this work?

A. At present George Otis Smith is the director of the United States Geological Survey.

Q. You mean he is the national director?

A. National direct-.

Q. What is the latest year available giving date of the United States Geological Survey in respect to gas—natural gas?

A. The latest data is 1918, although the 1918 reports on oil and gas are not yet officially published for distribution, but advance copies have been published that can be obtained.

2397 Q. Have you obtained advance copies for the year 1918 in respect to natural gas?

A. I have.

Q. Can you state the method used by the United States Geological Survey to obtain or procure information of the quantities of gas produced in the several states?

A. They have several methods to obtain this. The first method is by sending a blank questionnaire or report to be filled out by each producer and operator of oil and gas. This is filled out by them and sent to said Department, and from which the general data is compiled. If not all the operating companies or individual operators report, they have field men that they send out into the field and into the main points to ascertain if they have a list of all the companies and all the operators, and then to take up with those that have not reported and go in person and get such report from them, so as to include as near as possible every producer of oil and gas within the boundary of the state.

Q. Who is meant by or included in the term "producer"?

A. Those operating oil and gas wells whether they own them or whether they buy the gas, and those owning oil and gas wells are also included and are classified either as owners or operators.

Q. Does the United States Geological Survey undertake to ascertain how much of the gas produced in the State is used for industrial and domestic purposes?

2398 A. They do.

Q. Does the publication, or do the publications of the United States Geological Survey undertake to give public information of the amount of gas fuel used for industrial and domestic purposes in the several States?

A. They do.

Q. Are you acquainted with and can you state what items or particular uses are included in the classification of industrial gas as industrial gas is classified by the United States Geological Survey?

A. I can.

Q. Will you do so, please?

A. Under industrial consumption they have first, for fuel in manufacturing plants making iron, steel, glass, brick, pottery, cement, and any metallurgical work, etc.; second, for fuel in field for drilling and pumping; and third, for material for making carbon black; and they also—they have under the head of material for making natural gas from gasoline, also.

(Mr. Weil:)

Q. It is just the other way, is it not?

A. Making gasoline from natural gas, I guess we will put it that way. For using natural gas for gasoline, is what I really intended to say.

Q. Have you examined, and informed yourself by such examination, the quantity of gas produced for each of the years 1914 to

1918, inclusive, in the State of West Virginia as shown by the United States Geological Survey?

2399 A. I have.

Q. Do you have the published reports of the United States Geological Survey which you examined and from which you ascertained the quantity of gas for each of the years mentioned in the preceding question?

A. I have for the year beginning with 1906 and ending with 1918.

Q. You have those reports present with you?

A. I have.

Q. They are printed reports furnished by the Survey itself?

A. Yes, sir.

Q. Those reports contain a great deal of information and a great deal of data other than that in respect to natural gas?

A. Yes, sir.

Q. Are they or are they not rather large and voluminous?

A. They run in pages from 20 pages up to 70 pages, every report.

Q. For each report?

A. For each report.

Q. Printed pages you mean?

A. Yes, sir.

Q. Will you please state the quantity of gas produced in the State of West Virginia for the years 1914 to 1918 and each year, inclusive, as shown by the United States Geological Survey

2400 reports?

Mr. Weil: This is objected to unless the reports themselves are put in evidence and then a summary thereof given by the witness, the reports being the only evidence of their contents. We have no objection to the witness stating his summaries from those reports if the reports are first put in evidence in the case.

The objection as made is withdrawn with the understanding that the witness will refer to the special report of the Geological Survey, so that counsel may have the opportunity of examining the same for the purpose of cross-examination or any other proper purpose.

A. "The Production of Natural Gas" by John D. Northrop, issued by the Department of the Interior, United States Geological Survey, Mineral Resources of the United States, calendar year 1914, published December 15, 1915, pages 747-818, shows the production in 1914 to be 236,489,175 M cu. ft. Same title, for the calendar year 1915, dated December 29, 1916, shows the production in 1915 to be 244,004,159 M cu. ft. Same title, for the year ending December 31, 1916, published May 4, 1918, shows the production in 1916 to be 299,318,907 M cu. ft. Same title, for the calendar year 1917, published on September 20, 1919, shows the production in 1917 to be 308,617,101 M cu. ft. From the advance copy of "Natural Gas Produced and Consumed in the United States in 1918," for the calendar year ending December 31, 1918, 265,160,917 M cu. ft. In all of the figures given this notation is included "Includes gas piped from West Virginia and Consumed in Maryland."

2401 Q. As your answer is long, and to make it clear and concise, we understand from your answer that the quantities for the respective years are as follows: for 1914, 236,489,175 M cu. ft.; for the year 1915, 244,004,159 M cu. ft.; for the year 1916, 299,318,907 M cu. ft.; for 1917, 308,617,101 M cu. ft.; for the year 1918, 265,160,917 M cu. ft. State, please, if our understanding is correct.

A. It is.

Q. Have you informed yourself from the official reports of the United States Geological Survey and are you prepared to state therefrom the quantities of gas consumed as industrial and domestic gas in the state of West Virginia for the years 1914 to 1918, inclusive?

A. I have.

Q. State, please, the quantity of gas used for industrial and domestic purposes during the years 1914 to 1918, inclusive, within the State of West Virginia as shown by the official reports of the United States Geological Survey, identifying, if you can, the reports from which you derived such information.

A. This information was obtained from the same reports as the total production just given, and for the year 1914 the total amount of industrial gas consumed was 78,423,546 M cu. ft.; for domestic purposes 17,023,701 M cu. ft., making a total consumption in West Virginia of natural gas for the year 1914 of 95,447,247 M cu. ft.

2402 For the year 1915, the industrial was 77,083,600 M cu. ft. domestic was 17,893,105 M cu. ft., making a total of 94,976,705 M cu. ft. For the year 1916, the total amount of industrial consumption was 86,324,137 M cu. ft., domestic was 18,799,871 M cu. ft., making a total of 105,104,008 M cu. ft. For the year 1917 the industrial was 94,230,183 M cu. ft.; the domestic was 21,258,009 M cu. ft., making a total of 115,488,192 M cu. ft. For the year 1918 the industrial was 87,704,820 M cu. ft.; the domestic was 20,968,624 M cu. ft., making a total of 108,673,444 M cu. ft. Now in this consumption the same thing refers in regard to the other. It includes the gas piped from West Virginia and consumed in Maryland.

Q. Do you mean that the consumption of gas in West Virginia as shown in the figures just stated by you includes in that gas produced in West Virginia piped to be consumed in the State of Maryland?

A. It does.

Q. Have you undertaken to inform yourself of the quantity or quantities of gas produced in West Virginia piped to and consumed in the State of Maryland but which is included in the quantity stated as consued in the state of West Virginia?

A. I have.

Q. Where did you get the information?

A. From the Public Service Commission, from the statistician of the Public Service Commission and the records in their office.

(Mr. Weil:)

Q. Of what state?

2403 A. West Virginia.

Q. To what records do you refer?

A. To reports sent to the Public Service Commission and filed in their office.

Q. You mean by the company which produced the gas in West Virginia but transported it to the State of Maryland?

A. Yes.

Q. Did you examine the reports made by that company to the Public Service Commission of West Virginia?

A. I did.

Q. Did you obtain from that examination information as to the quantities produced in West Virginia but carried into the State of Maryland for consumption there?

A. I did.

Q. Will you state from your examination of such records the quantities of gas consumed in Maryland for industrial and domestic purposes but included in the United States Geological Survey as consumed in the State of West Virginia?

A. I will. For the year 1914 the total amount of industrial gas consumed in Maryland and piped from West Virginia was 3,035,661 M cu. ft., for domestic purposes 784,424 M cu. ft., making a total of 3,820,085 M cu. ft. For the year 1915 the industrial gas was 1,918,270 M cu. ft., for domestic purposes was 842,773 M cu. ft., making a total of 2,761,043 M cu. ft. For the year 1916 the industrial was 1,457,272 M cu. ft., the domestic was 900,145 M cu. ft., making a total of 2,357,417 M cu. ft. For the year

2404 1917 the industrial was 149,387 M cu. ft., the domestic was 707,547 M cu. ft., making a total of 856,934 M cu. ft. For the year 1918 the industrial was 456,789 M cu. ft., the domestic was 628,710 M cu. ft., making a total of 1,085, 499 M cu. ft.

Q. Do the official reports of the United States Geological Survey for the years 1914 to 1918, inclusive, show the quantities of industrial gas consumed in West Virginia for manufacturing and power purposes and for the manufacture of carbon black?

A. For the year 1914——

Q. Interrupting:) I am asking you whether those reports show that.

A. Yes, sir.

Q. The same reports give that information as the ones from which you have given the quantities produced in West Virginia?

A. Yes, sir.

Q. Have you from such reports ascertained and are you able to state the quantities used for the years 1914 to 1918, inclusive, for manufacturing and power purposes and for the making of carbon black?

A. I can.

Q. To make it clear, I mean have you ascertained from the same official United States Geological reports for the years 1914 to 1918,

inclusive, the information in respect to the quantities consumed for manufacturing and power purposes and the manufacture of carbon black, as you used in getting your information as
2405 to the production in West Virginia for those years?

A. I have.

Q. I hand you a blue print headed "Chart Showing Consumption of Natural Gas for Industrial Purposes in the State of West Virginia, including gas sold in Maryland during 1914, 1915, 1916, 1917 and 1918," and which for the purpose of identification will be marked West Virginia Exhibit No. 20, and also a chart showing consumption of natural gas for industrial purposes in the State of West Virginia (exclusive of Maryland) during 1914, 1915, 1916, 1917 and 1918, and which for the purpose of identification will be marked West Virginia Exhibit No. 21, and ask you to state whether you made these charts or had them made under your supervision and direction.

A. I had these made under my supervision and direction and verified them.

Q. Where did you get the information or the facts or the data from which these charts were made?

A. For Exhibit No. 20, the one including gas sold in Maryland, I obtained this from the United States Geological Reports referred to in my previous testimony.

Q. You mean for the years 1914 to 1918, inclusive?

A. Yes, sir.

Q. And already referred to by you?

A. Yes, sir. For Exhibit No. 21, chart showing consumption of natural gas for industrial purposes in the State of West Virginia, exclusive of Maryland, I obtained the data for the years 1914
2406 to 1918 from the United States Geological Survey, and for the amount of gas consumed in Maryland from the Public Service Commission of West Virginia.

Q. When you said for the years 1914 to 1918, you meant for the year 1914 to '18 and inclusive of the years 1914, 1915, 1916, 1917 and 1918?

A. Yes, sir.

Q. The Records of the Public Service Commission to which you refer are the records referred to by you a while ago when you stated the quantities of gas ascertained by you to have been produced in West Virginia but shipped to and consumed in the State of Maryland?

A. Yes.

Q. I wish you would explain Exhibit No. 20, the one including gas sold in Maryland, and particularly in what way you read the percentages shown in the last two columns of the exhibit.

A. The first column is percentage of total consumption within West Virginia, and the second is the percentage of total production of gas within West Virginia, and the total industrial consumption would be 82.42% of the total consumption of gas in West Virginia and Maryland, and this would be 33.03% of the total production of gas in West Virginia for the year 1914.

Q. You mean by the first column to show that 82.42% of the gas consumed in West Virginia in 1914 was consumed for and is industrial consumption?

A. Yes, sir.

2407 Q. And in the second column that the gas consumed in West Virginia as industrial consumption was 33.03% of the total production in West Virginia?

A. Yes, sir.

Q. You may proceed with your further answer.

A. And in 1914 the amount of gas consumed for manufacturing purposes was 36.80% of the total consumption.

Q. In West Virginia?

A. Of West Virginia, and 14.72% of the total production of West Virginia. And the amount consumed in the field for power, under boilers, gas engines and other purposes was 22.82% of the total consumption in West Virginia or 9.19% of the total production, and the amount used for carbon black was 22.80% of the total consumption in West Virginia or 9.12% of the total production, for the year 1914. For the year 1915 the total consumption for industrial purposes was 81.15% of the total consumption of West Virginia or 31.59% of the total production of said state, and for manufacturing purposes 39.26% of the total consumption was utilized and 15.28% of the total production. For the year 1915 the amount of gas used in the field for power, under boilers, gas engines, etc., was 21.90% of the total consumption or 8.52% of the total production, and the amount used for carbon black was 19.99% of the total consumption or 7.79% of the total production of West Virginia. For the year 1916 the total industrial consumption was 82.13% of the total consumption.

Q. In the State of West Virginia?

2408 A. In the State of West Virginia. Or 28.82% of its total production. The manufacturing for the same year was 36.27% of the total consumption or 12.74% of the total production. The amount for power, under boilers, gas engines, etc., was 23.52% of the total consumption or 8.24% of the total production, and the amount used for carbon black was 22.34% of the total consumption or 7.84% of the total production of gas in West Virginia for 1916. For the year 1917 the total industrial consumption was 81.59% of the total consumption in West Virginia or 30.53% of the total production in West Virginia. For manufacturing purposes the amount utilized was 36.78% of the total consumption or 13.76% of the total production. The amount of gas used for field power, boilers, gas engines, etc., was 20.32% of the total consumption or 7.60% of the total production in West Virginia. The amount utilized for carbon black was 24.49% of the total consumption or 9.17% of the production in West Virginia. For the year 1918 the total industrial consumption of gas utilized in West Virginia was 80.70% of the total consumption or 33.08% of the total production. The manufacturing was 26.40% of the total consumption or 10.87% of the total production. Field power, boilers, engines, etc., was 23.00% of the total consumption or 9.39% of the total

production. The amount utilized for carbon black was 31.30% of the total consumption or 12.82% of the total production of gas in West Virginia.

Q. Now as to Exhibit No. 21, the one showing the consumption of natural gas for industrial purposes in the State of West
2409 Virginia, exclusive of Maryland, state or explain the columns showing your per cent of total consumption and your per cent of total production.

A. For the year 1914 the total industrial consumption was 82.55% of the total consumption or 31.88% of the total production; for manufacturing 34.97% of the total consumption or 13.51% of the total production; for power in field, boilers, gas engines, etc., 23.81% of the total consumption or 9.18% of the total production; for carbon black 23.77% of the total consumption or 9.19% of the total production. For the year 1915 the total industrial consumption was 81.51% of the total consumption or 30.80% of the total production in West Virginia. For manufacturing the per cent of total consumption was 38.36% or 14.50% of the total production. For field power, boilers, gas engines, etc., the per cent of the total consumption was 22.56% or of the total production 8.53%. For carbon black the per cent of the total consumption was 20.59% or the per cent of the total production was 7.77%. For the year 1916 the total industrial consumption was 82.60% of the total consumption or 28.35% of the total production in West Virginia. For manufacturing purposes was used 35.69% of the total consumption or 12.25% of the total production. For power in field, boilers, gas engines, etc., the percentage of total consumption was 24.07% and the percentage of total production was 8.26%. For carbon black the percentage of total consumption was 22.84%, the percentage of total production was 7.84%. For the year 1917 the total amount of industrial gas consumed
2410 in West Virginia was 82.07% of the total consumption or 30.48% of the total production. The total amount of manufacturing gas used was 36.83% of the total consumption or 13.68% of the total production. For field power, boilers, gas engines, etc., the gas used was 20.47% of the total consumption or 7.60% of the total production. Gas for carbon black was 24.77% of the total consumption or 9.20% of the total production. For the year 1918 the total industrial consumption was 81.09% of the total consumption or 32.90% of the total production. The total manufacturing was 26.38% of the total consumption or 10.70% of the total production. Field, power, boilers, gas engines, etc., was 23.12% of the total consumption or 9.38% of the total production. The carbon black was 31.59% of the total consumption or 12.82% of the total production.

Q. I notice that in giving your percentages of total production that there is a slight variation for the years 1914, 1915 and 1917 in respect to carbon black. While these variations are very small, can you explain how they occurred?

A. The percentages were worked out independently for each year and the figures consist of three columns of nine figures or more.

Often a slight mechanical error occurs in the calculation, and these figures should be the same, but the error was simply made in making the calculation.

Q. In other words, the last figure in the column of percentages is at least the third figure from the ordinary decimal point and a very slight change would occasion these slight variances?

2411 A. Yes, sir.

Q. In other words they would have to be carried out into far numbers so as to make it exactly mathematically correct?

A. Yes, sir.

A recess was here taken until 2:00 o'clock, p. m.

2412 Supreme Court of the United States, October Term, 1919.

THE COMMONWEALTH OF PENNSYLVANIA, Complainant,

vs.

THE STATE OF WEST VIRGINIA.

THE STATE OF OHIO, Complainant,

vs.

THE STATE OF WEST VIRGINIA.

Before Levi Cooke, Esq., Commissioner.

Afternoon Session, Thursday, January 6, 1921.

Defendant's Testimony.

2413 Thursday Afternoon, January 6, 1921.

And, now, the hour of 2:00 o'clock, p. m., having arrived, hearing resumed, pursuant to adjournment.

C. E. KREBS resumes the stand.

Direct examination (continued).

Mr. Blue:

Q. I will ask you to explain, or state more fully than you have yet perhaps done, the figures included in the item of power and particularly so in respect to that item where you use it with the word "Field" before it on West Virginia Exhibits Nos. 20 and 21; and in answering this, state what you understand from the United States Geological Survey reports, the item covered within that term?

A. I understand that the item marked "Field, Power, Boilers, Gas Engines, etc.," is the amount of gas that was consumed in the oil fields in the development of power in drilling wells, pumping,

etc., and also for gas that was utilized in boilers and gas engines whether they were in the oil fields or whether they were at some other convenient point.

Q. Do you have knowledge of the relative amount of this power that is consumed, or was consumed, in the fields for drilling and pumping?

A. I have not.

Q. Do the United States Geological Survey reports in any way indicate the relative amount of gas consumed in the field for drilling and pumping oil wells, or whatever the gas may be used
2414 for by the producing companies or the producers?

A. Not definitely.

Q. In the Exhibits 20 and 21, you have set forth the quantities of gas consumed in the years 1914 to 1918, inclusive, for carbon black. Do you know, from your own personal knowledge, as an engineer and geologist, and from your experience in different parts of West Virginia where the gas is generally used in the making of carbon black, I mean its location in respect to the gas fields generally?

A. It is usually located at some isolated field or a place that is some distance from the market where it could be consumed.

Q. You mean from any and all markets, or from a local market?

A. From a local market.

Q. If it were to be used for domestic or manufacturing purposes, then it would have to be transported by pipe lines, or delivered to existing pipe lines for such uses?

A. Yes, sir.

Q. Do you know, from your experience as an engineer and geologist, what pressure, if any, is required to utilize natural gas in the making of carbon black?

A. It usually is very low pressure, in fact, it is eventually, where it is finally used, the pressure is less than one pound per square inch.

Q. State, if you know, whether gas from wells that have lost their pressure and lost it to the extent that they cannot
2415 be utilized practically for supplying pipe lines, or general uses, can be used in carbon plants, and for the making of carbon black?

A. It can, as lon- as it has pressure enough*t* to be transported through the pipes of its own accord.

Q. That pressure, as a general rule, need be what, as a general maximum?

A. It can be very low. Much lower than it could be put into large transporting pipes.

Q. From your knowledge and experience as an engineer and geologist and your knowledge of the fields of West Virginia, can a gas well, whose quantity and pressure have been so reduced as to be no longer practically valuable for furnishing gas to pipe lines in domestic and manufacturing purposes, be used and utilized for the manufacture of carbon black?

A. It can.

Q. As long as a well has a flow of gas of a very low pressure, is it practicable to use it for the purpose of manufacture of carbon black?

A. It is.

Q. And is it practicable to use it for the purposes of putting it into the transportation lines for domestic and manufacturing purposes?

A. It is not, unless mechanical means are utilized to put it in; compressor stations, to pump the gas.

Q. If the quantity of it is small, is it practicable to undertake to put it in the line by pressure?

2416 A. It might not be profitable to do so if you have a small amount of gas.

Q. Would it be profitable to use that small amount of gas, however, for the making of carbon black?

A. It can be used, yes, sir.

Q. Do you know whether, as a fact, carbon black is made from gas taken from the wells of public utilities?

A. I do not.

Q. Do you know, as a fact, from your knowledge of West Virginia, whether those engaged in the manufacture of carbon black, buy the gas from utilities or do they acquire it, or produce it from their own territory?

A. As far as I know, they produce it from their own wells. There may be some plants that are buying it from some wells that have been drilled by local capital or small companies, but I do not know of any carbon plant that is buying gas from the large utilities.

Q. What is carbon black, and what is it used for?

A. Carbon black is a pure flocculent form of carbon manufactured from natural gas. It is made by burning the gas under a very low pressure and a low flame, and not enough air is admitted to produce complete combustion, with the result that the unconsumed carbon is deposited on a roller plate from which this carbon is removed.

Q. Do you know where it is manufactured?

A. It is manufactured in West Virginia, in Oklahoma, Louisiana, Wyoming and possibly, or probably, in one or two places

2417 in Pennsylvania, but I am not sure of the latter.

Q. What is it used for?

A. The uses of carbon black are, First: for printers' ink, and, Second, for automobile tires, both pneumatic and solid; for black and gray paints; for ships' structural iron; for carbon paper; typewriter ribbons, phonograph records; tarpaulins having black leather, paper book binders' boards; for buttons, shoe polish, stove polish, electrical compositions, cameras, crayon, and many other things that are manufactured from carbon black.

Q. Have you any information of the total quantities of it manufactured to the United States?

A. It is estimated that there are, approximately, forty to forty-three million pounds of carbon black manufactured per year.

Q. Where did you get that information?

A. From the U. S. Bureau of Mines.

Q. Out of the same official volumes of the reports that you used a while ago?

A. No, the U. S. Bureau of Mines is another department of the Department of the Interior.

Q. Have you examined their reports as to the quantities of carbon black manufactured?

A. I have.

Q. Of that total quantity, have you information as to the part of it, or the quantity of it, made in the State of West Virginia?

2418 A. It is estimated that there is possibly, about three-fourths of all the carbon black manufactured in West Virginia.

Q. Of the forty million pounds of it manufactured annually, can you state the principal industries in which it is used and the quantities of it each of these industries use?

A. It is estimated that the rubber industry uses 20,000,000; printers' ink about 10,000,000, for exportation purposes about 8,000,00-, stove polish 4,000,000, phonograph records, about 1,000,000, and the remaining 500,000.*00* or more, is utilized for other purposes that I mentioned.

Q. Of the carbon black made in the State of West Virginia, do you know whether it is used, all of it, or any part of it, in the State?

A. There is a very little bit of it used within West Virginia.

Q. Where, and for what purpose, do you know?

A. It is used for some of the rubber plants that are starting up, and possibly, for some shoe polish and stove polish, is about all.

Q. None of these rubber plants in West Virginia are in operation yet, are they?

A. I do not know, unless there is one at Wheeling. There is none in this part of the State.

Q. So that practically all of the carbon black manufactured in West Virginia is used outside of the State?

A. It is.

2419 Q. Do you know whether the use of gas, for the making of carbon black, is increasing or decreasing in the State of West Virginia.

A. From the statistics I have obtained, I think it is decreasing within West Virginia.

Q. Have you made an examination of the official public reports of the United States Geological Survey to ascertain the quantities of production of natural gas in the states of Pennsylvania, Ohio, Indiana, and Kentucky?

A. I have.

Q. I have heretofore asked you to state the quantities of gas produced in the State of West Virginia, for the years 1914 to 1918, inclusive, as shown by the United States Geological Survey reports, and the amount consumed in the State for industrial and domestic purposes, for each of the years. Will you state, please, the amount

of gas shown to be shipped out of the State of West Virginia for the years 1914 to 1918, inclusive, as shown by the reports referred to?

A. For the year 1914, the amount of gas shipped out of West Virginia was 141,341,928 M cubic ft.

Q. What percentage was that of the total production?

A. 59.77 per cent. For the year 1915, there was shipped out of West Virginia 149,027,454 M cubic ft. or 61.08 per cent of the total production. For the year 1916, there was shipped out of West Virginia 194,214,899 M cubic ft. of gas, or 64.90 per cent of the total production. For the year 1917, there was shipped out
2420 of West Virginia 193,128,909 M cubic ft. or 62.58 per cent of the total production. For the year 1918, there was shipped out of West Virginia 157,487,473 M cubic ft. or 59.12 per cent of the total production of gas in the State.

Q. Are you able to state, from an examination of the United States Geological Survey reports the production of natural gas in the State of Pennslyvania and the consumption of natural gas in the State of Pennsylvania, including in your answer whether you can state the amount of gas shipped into the State of Pennsylvania?

A. I can.

Q. Are the official reports of the United States Geological Survey, from which you have informed yourself, respecting the production of natural gas in Pennsylvania, and the use of natural gas in that State for industrial and domestic purposes and the amount of gas brought into the State, the same from which you informed yourself respecting the production and consumption of gas in the State of West Virginia?

A. They are.

Q. And the ones you have already referred to and identified?

A. They are.

Q. I hand you a diagram of "Production And Consumption Of Natural Gas in the State of Pennsylvania during 1914, 1915, 1916, 1917 & 1918" which for identification, will be marked West Virginia Exhibit No. 22, and will ask you if the same was made up by
2421 you, or under your direction and supervision?

A. It was.

The State of West Virginia now files Exhibits Nos. 20, 21 and 22.

Q. From your examination of the reports of the United States Geological Survey and from the diagram which you have made, I will ask you to state the production of natural gas in the State of Pennsylvania for the years 1914, to 1918, inclusive, the quantities used in that State for industrial and domestic purposes, respectively, and the amount of gas purchased and brought into the State of Pennsylvania from the outside?

A. For 1914, the total production was 110,745,374 M. cubic ft. or 67.19 per cent of the total consumed. There was consumed in Pennsylvania for 1914, for industrial purposes 114,641,800 M. cubic ft. or 69.55 per cent of the total consumption. For domestic purposes there was consumed 50,192,742 M. cubic ft. or 30.45 per cent of the total consumption. The total consumption for the year was 164,-

834,542 M. cubic feet, and the amount imported was 54,089,168 M. cubic feet, or 32.81 per cent of the total consumption.

Q. What do you mean when you say "Gas imported"?

A. I mean gas shipped into Pennsylvania.

Q. From other States?

A. From other States. For the year 1915, there was produced in Pennsylvania 113,691,690 M. cubic feet, or 64.46 per cent of
2422 its total consumption. There was consumed for industrial purposes 125,018,851 M. cubic feet, or 70.89 per cent of its total consumption. There was consumed for domestic purposes 51,348,384 M. cubic feet, or 29.11 per cent of the total consumption. There was shipped or transported into Pennsylvania 62,675,545 M. cubic feet, or 35.54 per cent of its total consumption; for the year 1916, there was produced in Pennsylvania 129,925,150 M. cubic feet of gas and there was consumed in it for industrial purposes 145,854,898 M. cubic feet, or 72.40 of its entire consumption. There was consumed for domestic purposes 55,605,995 M. cubic feet, or 27.60 per cent of its entire consumption. There was shipped or transported into the State 71,535,743 M. cubic feet of gas, or 35.51 per cent of the total consumption. For the year 1917, there was produced in Pennsylvania 133,397,206 M. cubic feet, or 65.95 per cent of its total consumption. There was consumed for industrial purposes 139,123,715 M. cubic feet, or 68.78 per cent of its entire consumption. For domestic purposes, there was consumed 63,135,783 M. cubic feet, or 31.22 per cent of its entire consumption. There was consumed in the State for that year 202,259,498 M. cubic feet, and there was transported into the State 68,862,292 M. cubic feet, or 34.05 per cent of its entire consumption. For the year 1918, there was produced in Pennsylvania 123,813,358 M. cubic feet, or 69.89 per cent of its entire consumption. There was consumed for industrial purposes 117,300,074 M. cubic feet, or 66.28 per cent of its entire consumption. For domestic purposes there was consumed
59,839,730 M. cubic feet, or 33.72 per cent of its entire con-
2423 sumption. The entire consumption was 177,139,804 M. cubic feet; and the amount transported into the state was 53,326,446 M. cubic feet, or 30.11 per cent of its entire consumption.

Q. Have you prepared, or have you caused to be prepared, a chart showing the consumption of natural gas for industrial purposes in the State of Pennsylvania, showing the per cent of the gas produced in Pennsylvania used in and for industrial purposes?

A. I have.

Q. I hand you a blue print marked, for identification, West Virginia Exhibit No. 23, and I will ask you if that is the chart showing the per cent of consumption; that is, the per cent of the gas produced in Pennsylvania consumed in and for industrial purposes?

A. It is.

The State of West Virginia now files West Virginia Exhibit No. 23.

Q. Please explain West Virginia Exhibit No. 23 and particularly

the last column thereof, under the head of "Per cent of Total Production".

A. For the year 1914 the industrial consumption showed 69.55 per cent of the total consumption, or 103.52 per cent of the total production of Pennsylvania. This was classified into "Manufacturing", which shows a total consumption of 63.13 per cent of the total consumption of the State, or 93.98 per cent of its total production. For Field, Power, (Boilers, Gas Engines, etc.), the percentage of total consumption was 6.42 and the percentage of total con-
2424 sumption was 9.54 per cent. For the year 1915 the total industrial consumption was 70.89 per cent of its total consumption, or 109.95 per cent of its total production. For manufacturing there was 64.58 per cent of the total consumption used, or 100.23 per cent of its total production. For power (boilers, gas engines, etc.), the percentage of consumption was 6.31 of its total consumption, or 9.72 per cent of its total production. For the year 1916 the total industrial consumption was 72.40 per cent of the entire consumption, or 112.26 per cent of the total production of Pennsylvania. For manufacturing it was 65.31 per cent of the total consumption, or 101.27 per cent of the total production of Pennsylvania. The field, power, (boilers, gas engine, etc.), was a total percentage of 7.09 of its total consumption, or 10.99 per cent of its total production. For 1917 the total industrial consumption was 68.70 per cent of the total consumption, or 104.28 per cent of the total production of Pennsylvania. The manufacturing was 61.23 per cent of the total consumption, or 92.84 per cent of the total production. The power, field, (boilers, gas engines, etc.), was 7.55 per cent of the total consumption or 11.44 per cent of the entire production of the state. For the year 1918 the total industrial consumption was 66.28 per cent of the total consumption, or 94.74 per cent of the total production of Pennsylvania. The manufacturing was 58.88 per cent of the total consumption, or 84.24 per cent of the total production. The field, power, (boilers, gas engines, etc.), was 7.40 per cent of the total consumption,
2425 or 10.50 per cent of the total production.

Q. Your column headed "Per Cent of Total Consumption" is based upon the total quantity of gas produced and imported or brought into the State of Pennsylvania?

A. It is.

Q. And your last column, headed "Per cent of Total Production," is based upon the production of natural gas in the State of Pennsylvania?

A. It is.

Q. Do the words "manufacturing" and "power" have the same meaning, and are they used in the same meaning and sense, as you used them in making your statements in respect to gas used for manufacturing and for power in the State of West Virginia?

A. They do and they are.

Q. In making your statements respecting consumption of gas in West Virginia, you included the gas consumed in making carbon

black. In your statements in respect to Pennsylvania you do not seem to have included carbon black. Will you explain why you have not?

A. I was unable to find any data in the United States Geological Survey Reports where carbon black was manufactured and the amount thereof through the years 1914 to 1918, inclusive.

Q. Have you made an examination of the United States Geological Reports to ascertain the quantity of gas produced in
2426 the State of Ohio, and the quantity of gas shipped into or imported into the State of Ohio, and the consumption thereof for industrial and domestic purposes for the years 1914 to 1918, inclusive?

A. I have.

Q. Have you made, or had made under your supervision and direction, a diagram of the production and consumption of natural gas in the State of Ohio, including the quantities shipped into the State of Ohio, for the years mentioned in the preceding question?

A. I have.

Q. I show you a diagram "of the production and consumption of natural gas in the State of Ohio," showing the amount produced and shipped into the State and the quantities used for industrial and domestic purposes, which, for indentification, is marked West Virginia Exhibit No. 24, and will ask you if that is the diagram you made or had made under your direction and supervision?

A. It is.

Q. Where did you get the information from which West Virginia Exhibit No. 24 is made?

A. From the published reports of the United States Geological Survey?

Q. The same reports from which you made and compiled your figures in respect to the State of West Virginia and in respect to which you have made your statements?

A. Yes, sir.

2427 The State of West Virginia now files her exhibit, marked West Virginia Exhibit No. 24, being a "Diagram of Production and Consumption of Natural Gas in the State of Ohio during 1914, 1915, 1916, 1917 and 1918".

Q. Will you please explain West Virginia Exhibit No. 24, what the figures in it indicate and what they mean?

A. For the year 1914 the State of Ohio produced 68,270,174 M. cubic feet of natural gas, or 49.53 per cent of its entire consumption. There was consumed within Ohio during that year for industrial purposes 66,515,215 M. cubic feet, or 48.06 per cent of its entire consumption. For domestic purposes there was 71,873,699 M. cubic feet, or 51.94 per cent of its entire consumption. The total consumption for that year in the state was 138,388,914 M. cubic feet. There was transported or shipped into the State of Ohio for that year 70,118,740 M. cubic feet, or 50.67 per cent of its entire production. For 1915 the amount produced in Ohio was 79,510,032 M. cubic feet

of natural gas, or 54.19 per cent of its entire consumption. There was consumed in that year for industrial purposes in that state 69,337,444 M. cubic feet, or 47.46 per cent of its entire consumption. For domestic purposes there was consumed 77,087,545 M. cubic feet, or 52.54 per cent of its entire consumption. The total consumption in Ohio for that year was 146,724,989 M. cubic feet. There was transported into Ohio for that year 67,214,757 M. cubic feet, or 45.81 per cent of its entire consumption. For the year 1916 there was produced in the State of Ohio 69,888,070 M. cubic feet, or
2428 | 41.24 per cent of its entire consumption. There was consumed, for industrial purposes, that year 84,822,389 M. cubic feet, or 50.05 per cent of its entire consumption. For domestic purposes there was consumed 84,657,622 M. cubic feet, or 49.95 per cent of its entire consumption. There was consumed that year in Ohio 169,480,011 M. cubic feet of gas. There was transported into Ohio that year 99,591,941 M. cubic feet, or 58.76 per cent of its entire consumption. For the year 1917 there was produced in Ohio 68,917,231 M. cubic feet, or 41.57 per cent of its entire consumption. There was consumed that year in Ohio for industrial purposes 64,197,917 M. cubic feet, or 38.72 per cent of its entire consumption. For domestic purposes there was consumed 101,584,452 M. cubic feet, or 61.28 per cent of its entire consumption; the entire consumption for the year being 165,782,369 M. cubic feet. There was transported into the State of Ohio for that year 96,865,138 M. cubic feet, or 58.43 per cent of its entire consumption. For the year 1918 there was produced in Ohio 61,261,069 M. cubic feet, or 42.66 per cent of its entire consumption. There was consumed in that year for industrial purposes 45,561,594 M. cubic feet, or 31.73 per cent of its entire consumption. For domestic purposes there was consumed 98,023,666 M. cubic feet, or 68.27 per cent of its entire consumption. There was consumed in the state that year 143,585,260 M. cubic feet. There was transported into the state 82,324,191 M. cubic feet, or 57.34 per cent of its entire consumption.

2429 Q. I now hand you a chart showing consumption of natural gas for industrial purposes in the State of Ohio, which, for identification purposes, will be marked West Virginia Exhibit No. 25, and will ask you if that chart wa smade by you or under your direction and supervision?

A. It was.

The State of West Virginia now files as part of the record "Chart Showing Consumption of Natural Gas for Industrial Purposes, in the State of Ohio, During 1914, 1915, 1916, 1917 and 1918", marked West Virginia Exhibit No. 25.

Q. Will you please explain the chart just introduced and filed as West Virginia Exhibit No. 25?

A. For the year 1914 the industrial consumption was 48.06 per cent of its entire consumption, or 97.57 per cent of the total production. For manufacturing purposes there was consumed 35.82 per cent of the total consumption, or 72.76 per cent of the total production. For field power, (boilers, gas engines, etc.), there was con-

sumed 12.24 per cent, or 24.81 per cent of its entire production. For the year 1915 the total industrial consumption was 47.46 per cent of its total consumption, or 87.58 per cent of the total production of Ohio. For manufacturing purposes there was consumed 36.34 per cent, or 66.91 per cent of the total production of the state. For field power (boilers, gas engines, etc.), there was consumed 11.12 per cent, or 20.67 per cent of the total production. For the
2430 year 1916 there was consumed for industrial purposes 50.05 per cent of the total consumption, or 121.38 per cent of its total production. For manufacturing there was consumed 38.71 per cent of the total production. For field power, (boilers, gas engines, etc.), there was consumed 38.71 per cent of the total consumption, or 93.90 per cent of the total production. For field power, (boilers, gas engines, etc.), there was consumed 11.34 per cent of the total consumption, or 27.48 per cent of the total production of Ohio. For the year 1917 the total industrial consumption for Ohio was 38.72 per cent of the total consumption of gas, or 93.15 per cent of the total production of the state. For manufacturing purposes there was consumed 28.19 per cent of the total consumption, or 67.85 per cent of its entire production. For field purposes (boilers, gas engines, etc.) there was consumed 10.53 per cent of the entire consumption, or 25.30 per cent of the entire production of the state. For the year 1918 there was consumed for industrial purposes in Ohio 31.73 per cent of the total consumption, or 74.37 per cent of the total production. For manufacturing purposes there was consumed 23.29 per cent of the total consumption, or 54.59 per cent of the total production. For field power (boilers, gas engines, etc.) there was consumed 8.44 per cent of the entire consumption, or 19.78 per cent of the entire production.

Q. Is West Virginia Exhibit No. 25 made upon information obtained from the United States Geological Survey Reports?

A. Yes, sir.

2431 Q. State, please, whether you have made, or had made under your direction and supervision, diagram of production and consumption of natural gas in the State of Indiana for the years 1914 to 1918, inclusive, showing the production of gas therein; the gas imported or brought into the State and the industrial and domestic consumption of gas in that State for the years named.

A. I have.

Q. Where did you get the information upon which you made such diagram?

A. From the published report of the United States Geological Survey.

Q. The same ones to which you have already referred this day.

A. Yes, sir.

Q. I hand you a blueprint with the heading "Diagram of production and Consumption of Natural Gas in the State of Indiana during 1914, 1915, 1916, 1917—&—1918," and marked for identification, West Virginia Exhibit No. 26, and will ask you if that is the one that you made or had made under your direction and supervision.

A. It is the same one.

Q. Will you please explain West Virginia Exhibit No. 26.

A. This exhibit shows the production of natural gas in the State of Indiana, the consumption for industrial purposes and for domestic purposes, and the amount of gas transported into said state
2432 for the years 1914, 1915, 1916, 1917 and 1918, and the result shows as follows: The total production of gas in Indiana for the year 1914 was 2,579,675 M. cubic feet, or 58.06 per cent. of its entire consumption, and the amount of consumption for industrial purposes was 1,038,693 M. cubic feet, or 23.38 per cent. of its entire consumption; for domestic purposes there was consumed 3,404,551 M. cubic feet, or 76.62 per cent. of its entire consumption; the total amount of gas consumed in Indiana for that year was 4,443,244 M. cubic feet, and the total amount of gas transported into the state for that year was 1,683,569 M. cubic feet, or 141.94 per cent; for 1915 there was produced in Indiana for that year 2,260,733 M. cubic feet, or 50.02 per cent. of its entire consumption; there was consumed within the state that year for industrial purposes 1,013,890 M. cubic feet, or 22.4[illegible] per cent of its entire consumption; for domestic purposes there [illegible] consumed 3,505,354 M. cubic feet, or 77.56 per cent. of its entire consumption; the total amount consumed in the state that year was 4,514,244 M. cubic feet; the total amount transported into the state for that year was 3,303,865 M. cubic feet, or 49.98 per cent. of its entire consumption; for the year 1916 there was produced in Indiana 1,715,497 M. cubic feet, or 34.18 per cent. of its entire consumption; there was consumed that year for industrial purposes 1,663,492 M. cubic feet, or 33.13 per cent. of its entire consumption; for domestic purposes there was consumed 3,357,872 M. cubic feet, or 66.87 per cent. of its entire con-
2433 sumption; the total consumption for that year in Indiana was 5,021,364 M. cubic feet, and the total amount of gas transported into the state for that year was 3,303,865 M. cubic feet, or 65.82 per cent. of its entire consumption; for the year 1917 there was produced in Indiana 1,711,454 M. cubic feet, or 29.68 per cent. of its entire consumption; there was consumed that year for industrial purposes 2,291,145 M. cubic feet, or 39.73 per cent. of its entire consumption; for domestic purposes there was consumed 3,475,321 M. cubic feet, or 60.27 per cent. of its entire consumption; the entire consumption for the year was 5,766,466 M. cubic feet, and the amount transported into the state for that year was 4,055,012 M. cubic feet, or 70.32 per cent of its entire consumption; for the year 1918 there was produced in Indiana 1,666,822 M. cubic feet, or 36.90 per cent. of its entire consumption; for industrial purposes there was consumed 2,088,580 M. cubic feet, or 46.24 per cent. of its entire consumption; for domestic purposes there was consumed 2,428,003 M. cubic feet, or 53.76 per cent. of its total consumption; the total consumption for the year was 4,516,585 M. cubic feet, and the amount of gas transported within the state for that year was 2,849,761 M. cubic feet, or 63.10 per cent. of the entire consumption. We have this foot-note in the production of gas from the United States Geological Survey, in which it says, "The amount of gas utilized in Indiana in-

cludes the consumption of gas pipes from Indiana to Chicago, Illinois," but the amount of this gas is not given.

2434 (Mr. Eagleson:)

Q. What volume and page?
A. "Gas, 1916," page 591.
Q. What is the date of the issue?
A. Issue of 1918.
Q. I hand you a "chart showing consumption of Natural Gas for Industrial Purposes, in the State of Indiana, During 1914, 1915, 1916, 1917 and 1918," which, for the purpose of identification, will be marked West Virginia Exhibit No. 27, and will ask you if the same was made by you or under your direction and supervision.
A. It was.

The State of West Virginia here files as part of the record West Virginia Exhibit Nos. 26 and 27, respectively.

Q. Please take West Virginia Exhibit No. 27 and explain it.
A. This exhibit shows the consumption of natural gas for industrial purposes in the State of Indiana for the years 1914, 1915, 1916, 1917 and 1918, which is as follows: Total industrial consumption for 1914 was 23.38 per cent. of the total consumption of the State, or 40.06 per cent. of its total production; the consumption for manufacturing purposes was 16.59 per cent. of the total consumption, or 28.37 per cent. of the total production for power, field (boilers, gas engines, etc.) the total amount of gas used was 6.79 per cent. of the total consumption, or 11.69 per cent. of its total production; for the year 1915 the total consumption for industrial purposes was 22.44 per cent. of the total consumption, or 44.85 per
2435 cent. of the total production; for manufacturing purposes 17.23 per cent. of the total consumption was utilized, or 34.41 per cent. of its total production; for field, power (boilers, gas engines, etc.) there was consumed 5.23 per cent. of the total consumption, or 10.44 of the total production; for the year 1916 the total consumption for industrial purposes was 33.13 per cent. of the total consumption, or 96.97% of the total production; for manufacturing purposes there was utilized 30.88 per cent. of the total consumption, or 90.38 per cent. of the total production; for power, field (boilers, gas engines, etc.) there was utilized 2.25 per cent. of the total consumption, or 6.59 per cent. of the total production; for the year 1917 the total industrial consumption was 39.73 per cent. of the total consumption, or 134.22 per cent. of the total production; for manufacturing there was utilized 35.06 per cent. of the total consumption, or 118.50 per cent. of the total production; for field, power (boilers, gas engines, etc.) there was utilized 4.67 per cent of the total consumption, or 15.32 per cent. of the total production; for 1918 the total industrial consumption was 46.24 per cent. of the total consumption, or 125.29 per cent. of the total production; the manufacturing was 32.02 per cent. of the total consumption, or 86.76

per cent. of the total production; the field, power (boilers, gas engines, etc.) was 14.22 per cent. of the total consumption, or 38.53 per cent. of the total production of the state.

2436 Q. Where did you get the information from which you made up West Virginia Exhibit No. 27?

A. From the published reports of the United States Geological Survey.

Q. The same ones to which you have been referring all along?

A. Yes, sir.

Q. Have you made an examination of the United States geological reports in respect to the production of natural gas in the State of Kentucky and the quantities shipped into that state and used in that state for industrial and domestic purposes for the years 1914 to 1918, inclusive?

A. I have.

Q. I hand you a blue print headed "Diagram of Production and Consumption of Natural Gas in the State of Kentucky During 1914, 1915, 1916, 1917, & 1918," marked for identification West Virginia Exhibit No. 28, and will ask you if the same was made by you or under your direction and Supervision.

A. It was.

Q. Where did you get the information from which you made West Virginia Exhibit No. 28?

A. From the published reports of the United States Geological Survey.

Q. From the same reports to which you have referred already in your testimony?

A. Yes, sir.

2437 The State of West Virginia now offers and files in evidence West Virginia Exhibit No. 28.

Q. Will you please take West Virginia Exhibit No. 28 and explain it.

A. West Virginia Exhibit No. 28 is a diagram of the production and consumption of natural gas in the State of Kentucky for the years 1914, 1915, 1916, 1917 and 1918, showing production and consumption, which are as follows: For the year 1914 the total amount of gas produced in Kentucky was 1,421,818 M. cubic feet, or 19.69 per cent. of its entire consumption; there was consumed for industrial purposes that year 3,003,131 M. cubic feet, or 41.54 per cent. of its entire consumption; for domestic purposes there was consumed 4,222,495 M. cubic feet, or 58.46 per cent. of its entire consumption; there was consumed that year 3,225,626 M. cubic feet of gas, and there was transported into the state that year 5,800,808 M. cubic feet, or 80.31 per cent. of its entire production; for the year 1915 there was produced in Kentucky 1,667,423 M. cubic feet of gas, or 21.53 per cent. of its entire consumption; there was consumed in that year for industrial purposes 2,822,144 M. cubic feet, or 36.43 per cent. of its entire consumption; for domestic purposes there was consumed 4,924,209 M. cubic feet, or 63.57 per cent. of the entire consumption; the total consumption for the year was 7,746,353 M. cubic feet;

there was transported into the state that year 6,078,927 M. cubic feet, or 78.47 per cent. of its entire consumption; in 1916 there was
2438 produced in Kentucky 2,106,542 M. cubic feet, or 21.30 per cent. of its entire consumption; there was consumed for industrial purposes that year 4,027,721 M. cubic feet, or 40.73 per cent. of its entire consumption; for domestic purposes there was consumed 5,860,235 M. cubic feet, or 59.27 per cent. of its entire consumption; the total consumption for that year was 9,887,956 M. cubic feet, and there was transported into the state that year 7,781,414 M. cubic feet, or 78.70 per cent. of its entire consumption; for the year 1917 there was produced in Kentucky 2,802,079 M. cubic feet, or 23.25 per cent. of its entire production; there was consumed that year for industrial purposes 4,699,292 M. cubic feet, or 38.99 per cent. of its entire consumption; for domestic purposes there was consumed 7,-354,153 M. cubic feet, or 61.01 per cent. of its entire consumption; the total consumed for that year was 12,053,455 M. cubic feet, and the total amount of gas purchased or transported into the state for that year was 9,251,366 M. cubic feet, or 76.75 per cent. of the total consumption; for the year 1918 there was produced in Kentucky 3,022,439 M. cubic feet, or 24.77 per cent. of its entire production; there was consumed that year in Kentucky for industrial purposes 4,277,249 M. cubic feet, or 35.06 per cent. of its entire consumption; for domestic purposes there was consumed 7,922,941 M. cubic feet, or 64.94 per cent. of the total production; the total amount consumed that year in Kentucky was 12,200,190 M. cubic feet, and the total amount of gas transported into Kentucky for that year
2439 was 9,177,751 M. cubic feet, or 75.23 of its entire consumption.

Q. I hand you a blueprint headed "Chart Showing Consumption of Natural Gas for Industrial Purposes, in the State of Kentucky During 1914, 1915, 1916, 1917 and 1918", which for identification will be marked West Virginia Exhibit No. 29, and will ask you if you made the same, or whether it was made under your supervision and direction?

A. It was made under my supervision and direction.

Q. Where did you get the information upon which it was made?

A. From the published reports of the United States Geological Survey.

Q. The same reports to which you have been referring in all of your testimony?

A. Yes, sir.

The State of West Virginia now offers and files in evidence said chart just identified by the witness, marked West Virginia Exhibit No. 29.

Q. Will you please take West Virginia Exhibit No. 29 and explain it.

A. This exhibit shows the total consumption of natural gas for industrial purposes in the State of Kentucky for the years 1914, 1915, 1916, 1917 and 1918. For the year 1914 the total amount of gas consumed for industrial purposes in Kentucky was 41.54 per

cent. of its total consumption, or 211.21 per cent. of the total production of that state for that year; for manufacturing purposes
2440 there was consumed 28.23 per cent. of the total consumption, or 143.50 per cent. of the total production of the state; for field, power (boilers, gas engines, etc.) there was consumed 13.31 per cent. of the total consumption, or 67.71 per cent. of the total production; for the year 1915 there was consumed in Kentucky 36.43 per cent. of the total consumption, or 169.24 per cent. of the entire production of the state; there was utilized for manufacturing purposes 31.31 per cent. of the total consumption, or 145.37 per cent. of the total production of the state; for field, power (boilers, gas engines, etc.) 5.12 per cent. of the total *of the toal* consumed, or 23.87 per cent. of the total production; for the year 1916 there was consumed for industrial purposes in Kentucky 40.73 per cent. of its entire consumption, or 191.19 per cent. of its entire production, and for the same year there was consumed for manufacturing 36.04 per cent. of the entire consumption, or 169.17 per cent. of the entire production; there was consumed for field, power (boilers, gas engines, etc.) 4.69 per cent. of the entire production, or 22.02 of the entire production; for the year 1917 there was consumed in Kentucky for industrial purposes 38.99 per cent of the entire consumption, or 167.69 per cent. of the total production; there was consumed for manufacturing purposes 32.64 per cent of the entire consumption, or 140.38 per cent. of the entire production; for field, power (boilers, gas engines, etc.) there was consumed 6.35 per cent. of the entire consumption, or 27.31 of the entire production; for the year 1918 there
2441 was consumed for industrial purposes 35.06 per cent. of the entire consumption, or 141.51 per cent. of the entire production; there was consumed for manufacturing purposes 30.45 per cent. of the entire consumption, or 122.92 per cent. of the entire production; there was consumed for power, fi*l*ed (boilers, gas engines, etc.) 4.61 per cent. of the entire consumption, or 18.59 of the entire production.

Q. Are your statements in respect to the production and consumption of natural gas in the States of Pennsylvania, Ohio, Indiana and Kentucky made from information obtained or procured from the same United States Geological reports as those used by you in making your statements in respect to the production and consumption of natural gas in the State of West Virginia?

A. They are.

Q. In using the terms "manufacturing" and "power" in respect to the States of Pennsylvania, Ohio, Indiana and Kentucky, have you used them in the same sense and meaning as used by you in respect to the State of West Virginia, when using those terms?

A. I have.

Q. In your statements respecting Ohio, Indiana and Kentucky, under your heading of "Industrial Consumption", you have made no reference to the item of carbon black. Will you explain why you have done so?

A. As far as I could ascertain, there was no carbon black
2442 during those years produced in those States, or no reference of it; nor could I find any reference to the production of car-

bon black in the United States Geological reports for those years concerning those states.

Q. Do you know, as a matter of your own knowledge, whether carbon black is manufactured in the State of Kentucky?

A. It is being manufactured now in Floyd County; there is one plant installed, just ready for manufacturing—from the best knowledge I have.

Q. You have stated in the early part of your examination that the production of gas in West Virginia for the year 1917 was 308,617,101 M. cubic feet, as shown by the United States Geological reports. Have you made an examination of the reports to the Public Service Commission of West Virginia for the year 1917 to ascertain what those reports show to be the production of natural gas in the State of West Virginia for that year?

A. I have.

Q. Will you state the production of natural gas in the State of West Virginia for the year 1917, as shown by the reports to the Public Service Commission of West Virginia?

A. The reports show 289,898,967 M. cubic feet for the year 1917.

Q. Have you made an examination of the reports to the Public Service Commission of West Virginia and the reports in its offices showing the production of natural gas in the State of West Virginia for the year 1918, as indicated by the reports to and in the
2443 offices of the Public Service Commission of the State of West Virginia?

A. I have.

Q. What is the amount for that year?

A. The amount for 1918 is 280,289,044 M. cubic feet.

Q. Are you able to state from your examination of the United States Geological Survey reports and from which you have been testifying as your sources of information, whether distinction is made between the use of gas by public utilities and by private concerns, or whether all gas, whether handled by utilities or used by private concerns, is treated alike?

A. The United States Geological Survey treat gas as "industrial" and "domestic," primarily, and then it divided industrial into the classification as given by me; that is, as to manufacture into field use and into carbon black; especially is that true of West Virginia.

Q. You mean, especially that is true as to West Virginia in respect to the carbon black.

A. Carbon black; yes, sir.

Q. Do the geological reports refer to and specifically state the amounts of gas handled by utilities handling natural gas and distinguish that in quantities from the gas handled by private persons or in a private way?

A. They do not report that way.

Q. Were you present at Pittsburgh when Mr. Samuel W. Wier, a witness on behalf of the State of Pennsylvania, introduced certain small maps showing the location of the lines of the Carnegie
2444 Gas Company, the Eastern Oil Company, the Fayette County Gas Company, the Hope Natural Gas Company, the Manu-

facturers Heat & Light Company, the Philadelphia Company, Reserve Gas Company and the United Fuel Gas Company, with their compressing stations, etc.?

A. I was.

Q. Have you, at the direction of counsel for the State of West Virginia, made, or caused to be made, a composite map showing the same lines, stations, etc., as were shown on the several maps introduced by the State of Pennsylvania through Mr. Wier as one of its witnesses?

A. I have.

Q. I now hand you a map, which for identification purposes will be marked West Virginia Exhibit No. 30, and will ask you if that is the composite map made by you, and under your direction, which shows the lines and compressing stations, etc., on the one map as shown on the several maps introduced by the State of Pennsylvania through the witness Wier?

A. It is.

The State of West Virginia now offers and files in evidence the composite map identified by the witness, marked West Virginia Exhibit No. 30.

Q. I will ask you to make a statement in respect to this map, particularly to this extent: as to the basis of it and the lines as you have located them.

2445 A. The base of this map was prepared by reducing, by pantograph, from the United States topographical sheets—a scale of approximately 1 inch equals to 5,280 feet or $\frac{1}{62500}$ scale, and the outlines of the counties have been made from that map that has been prepared by us from time to time. The pipe lines were laid down by scale, as near as we could, from the maps that were furnished us as Mr. Wier's exhibit, and we have only shown the county seats of each county or points that might be of importance in regard to the connection of some of the pipe lines. Other towns are left off the map.

Q. Is this composite map, so far as the lines of the several companies named are concerned, made accurately from the maps introduced into the record and as part of the evidence of the State of Pennsylvania?

A. They are.

Q. You have added nothing to and taken nothing from those lines?

A. We have not.

Q. Do you know that the base of this map as to the counties is accurate?

A. As accurate as we could get it from the best data published.

Q. How long have you been engaged in the business of making maps?

A. For nearly 30 years, but this map proper has been on our

drafting table, off and on, for the last 10 years—a compilation of other maps.

2446 Q. You mean the base map of the State of West Virginia?

A. Yes, sir.

Q. And the lines, as shown on Mr. Wier's maps, as introduced in evidence by the State of Pennsylvania, are accurately laid down on the base?

A. As accurately as we could possibly do so.

Q. Have you made, or caused to be made under your supervision and direction, for the book of exhibits in this cause a small photographic map of this large composite map filed as West Virginia Exhibit No. 30?

A. I have.

Q. I hand you a small photographic map, which for identification will be marked West Virginia Exhibit No. 30-A, and will ask you if that is the photographic map, on a reduced scale, of West Virginia Exhibit No. 30?

A. It is.

The State of West Virginia now offers and filed the small photographic map, marked West Virginia Exhibit No. 30-A.

Q. In the photographic copy some of the lines thereon do not appear so heavy as those on the large composite map, West Virginia Exhibit No. 30. Will you please explain why this is true?

A. In the first place, this is a reduction of the large map.

Q. That is, you mean, West Virginia Exhibit No. 30-A.

2447 A. West Virginia Exhibit No. 30-A is a reduction of West Virginia Exhibit No. 30; and, in the second place, there are eight different colors on Exhibit No. 30, but these colors do not all photograph alike, as in the photographic map really there is only one color to each line, and the different colored lines on Exhibit No. 30—some are more faint in being photographed than others, which accounts for the faintness of these lines, and which also explains why some lines are more distinct than others.

Q. In other words, that some colors will photograph more plainly——

A. Yes, sir, with a bolder relief, and others with less.

Mr. Hoffheimer: It is hereby stipulated and agreed that the large map, West Virginia Exhibit No. 30, offered in evidence, shall be produced upon a submission and hearing of this cause, for use of either the court or counsel, if desired, but for the purpose of the printed record the smaller photographic copy of map, West Virginia Exhibit No. 30-A, shall be substituted for the larger or original map, West Virginia Exhibit No. 30.

An adjournment was here taken until Friday, January 7, 1921, at 9.30 o'clock a. m.

2448 Supreme Court of the United States, October Term, 1919.

THE COMMONWEALTH OF PENNSYLVANIA, Complainant,

vs.

THE STATE OF WEST VIRGINIA.

THE STATE OF OHIO, Complainant,

vs.

THE STATE OF WEST VIRGINIA.

Before Levi Cooke, Esq., Commissioner.

Morning Session, Friday, January 7, 1921.

Defendant's Testimony.

2449 Friday Morning, January 7, 1921.

And, now, the hour of 9.30 o'clock, a. m., having arrived, hearing resumed, pursuant to adjournment.

Mr. Hoffheimer: Just before adjournment yesterday a stipulation was entered into between the plaintiffs and the defendant in regard to the producing of the large map West Virginia Exhibit No. 30, and the inclusion in the record as printed of the smaller photographic copy thereof, West Virginia Exhibit No. 30-A. The transcript, however, indicates that the statement in regard to this matter was merely an ex parte statement of my own, but it was intended to be stated as a stipulation between the parties.

Mr. Weil: That stipulation was by counsel on both sides.

C. E. KREBS resumes the stand.

Direct examination (continued).

Mr. Blue:

Q. Mr. Krebs, referring to the large map, West Virginia Exhibit No. 30, there appears thereon a legend with certain colors, eight in number, yellow, carmine, blue, purple, brown, green, orange and scarlet. You may explain, please, whether these colors were the colors used by Mr. Wyer or whether they are the arbitrary colors used by you in making the composite map so as to distinguish one line from another.

A. They were the arbitrary colors adopted by us to establish the distinction between the different pipe lines.

Q. You have also indicated in the legend compressor stations, drying plants, measuring stations, distributing plants, by certain signs

or symbols. I will ask you whether you have undertaken to
2450 place all of the compressor stations, drying plants and measuring stations or just those as indicated by the maps filed, by Mr. Wyer.

A. As indicated by the maps filed by him.

Q. If there are other compressing stations, drying plants and measuring stations in the state, owned, operated and used by the several companies, you have not attempted to show them on this map?

A. We have not.

Q. You also have on the legend a sign or symbol for gas pipe line, which in the symbol is black, while these different lines are indicated in different colors. Please explain why this symbol designation under legend for "gas pipe-line."

A. It is shown in the legend in black to show simply the symbol, how it is marked on the map, and naturally under the different ownership of the different pipe lines it is marked the color indicated in that index or legend.

Q. Does Exhibit map No. 30 and the small photographic copy thereof, Exhibit No. 30-A, show or indicate all of the counties of the State of West Virginia?

A. It does not.

Q. Explain why it does not.

A. For the reason that there are no gas lines in other counties except those shown on this map, or at least none of importance; nor are there any important gas wells in any counties left off in this map in the State of West Virginia.

2451 Q. Are you not mistaken in this, that the line of the Eastern Oil Company goes into or through the County of Mineral?

A. Mineral? It is not shown. It has an extension as to may be one or two counties, or say, two or three counties, in which the gas line passes through in going into Maryland from West Virginia.

Q. Where is the County of Mineral in respect to the County of Tucker?

A. The County of Mineral is east of the County of Grant and the County of Grant is just east of the County of Tucker; that is, Grant County lies between the County of Tucker and the County of Mineral.

Q. Do you remember whether the maps introduced through Mr. Wyer included the counties of Grant and Mineral and indicated the extension of the line of the Eastern Oil Company through those two counties or in those counties?

A. It does.

Q. Is there any oil or gas produced in the counties of Grant and Mineral or any of the other counties not shown on this map No. 30?

A. There is not.

Q. Do you have personal knowledge of the use of natural gas in the State of West Virginia, particularly in the counties of Wetzel, Monongalia, Marion, Marshall, Tyler, Pleasants, Doddridge, Harrison, Taylor, Lewis, Ritchie, Wood, Wirt, Roane, Calhoun, Gil-

mer, Kanawha, Putnam, Boone, Lincoln, Mingo, and Cabell
2452 and Wayne?

A. I have.

Q. For what time, what number of years, would you say, you have personal knowledge of the use of natural gas in the counties indicated in the preceding question?

A. The first use I know of natural gas was at Morgantown in Monongalia County about 1888 or 1889, when gas was piped for domestic purposes into Morgantown, and later I remember when gas was piped and utilized in Wetzel County, in Marion and Tyler, Pleasants, and the counties named by you coming on at a later date.

Q. When was gas utilized in the Counties of Wetzel and Marion and that section of the state?

A. I would say that the gas was utilized commencing with about 1890 in a small way and increased yearly as gas wells were being drilled and the gas territory developed, pipe lines laid, etc.

Q. Asking you a more general question, state if you can, the parts of the state in which natural gas for fuel, both domestic and industrial, was first had, or about when it was first used and the general trend from that time in the use of gas in the state.

A. Natural gas was first used along the Ohio River and the Pan Handle. I think that possibly as early as——

Q. (Interrupting.) What do you mean by the Pan Handle?

A. The eastern Pan Handle, Brooke, Ohio, Hancock and
2453 Marshall counties. I think carbon black was possibly manufactured before 1870 near Wellsburg, and later on gas was utilized in the counties of Wetzel, Marion, Tyler, Pleasants, Wood, Ritchie, Doddridge, Harrison, Lewis, Gilmer and Wirt counties, and the development later on into Roane County, and gradually into Kanawha County, and then into Putnam, Cabell, Wayne, Lincoln counties, or in other words, the development in the use of natural gas was first along the northern and eastern part of the state.

Q. Do you mean northern and western?

A. Northern and western, it should be, part of the state.

Q. Are you personally acquainted with the country itself and the conditions in the counties of Marshall, Wetzel, Monongalia, Marion, Tyler, and Doddridge, and Ritchie, and Wood and Wirt?

A. I am.

Q. Roane and Kanawha and other counties to which you have already referred?

A. I am.

Q. Have you been around over them and through them?

A. I worked on the West Virginia Geological Survey in a number of those counties, and while on said Survey as assistant geologist to Dr. I. C. White, and later have made personal examination of a number of plants and oil and gas territory for different clients of mine.

2454 Q. As an engineer and geologist did you have occasion to go into these counties so as to become familiar with the use of natural gas in them?

A. I have.

Q. For what purpose has natural gas been used in these counties and to what extent by the people living in them and the industries in them?

A. It has been utilized for domestic purposes and for industrial purposes and the manufacture of carbon black.

Q. To what extent do the people living in the counties particularly named depend upon natural gas for fuel?

A. They are almost entirely dependent upon natural gas for fuel in the counties along the Ohio River and in the western part of West Virginia.

Q. Particularly, to what extent do the people of Marshall and Wetzel, Monongalia, and Marion, and Tyler, Pleasants, and Doddridge and Harrison, Taylor, Ritchie, Wood, Wirt, and Roane, Kanawha, and Cabell, Wayne and Lincoln, Mingo and Boone and Clay counties, depend upon natural gas as a fuel, and including cooking and also illuminating?

A. Wherever they can obtain natural gas they prefer it to any other fuel, and along the western part where the surface coals are thin and impure, they are dependent on it for fuel practically altogether; while in some of the eastern counties where the coals are not impure, they could utilize coal, but they naturally use natural gas in preference.

2455 Q. You stated in these western counties that the coal is thin and impure, I wish you would indicate the counties you have in mind where the coal is of such character.

A. The surface coal in the counties of southern Marshall, Wetzel, Tyler, eastern Marion, Doddridge, Ritchie, Wood, Wirt, Gilmer, Calhoun, Roane, Jackson, and Cabell and Lincoln counties, are particularly where the surface coals are impure and do not have the highest heating values.

Q. How are those people situated in respect to wood?

A. The timber is practically all cut. There is very little wood left for fuel.

Q. Now particularly as to the counties of Marshall and Ohio and Wetzel, Monongalia, Marion, Harrison, Doddridge, Tyler, Pleasants and Wood, and Ritchie and Wirt and Roane, and Cabell, to what extent do the people living in those counties have to depend upon natural gas for domestic purposes?

A. Well, the people in Ohio County and a portion of Marshall could utilize coal that is being mined in those counties.

Q. I am not asking you what they could do but what they are doing.

A. They are depending almost entirely upon natural gas for fuel.

Q. How long have they been so depending upon natural gas for fuel?

A. From the northern part they have more than 30 years but in the southern part possibly—probably, for 20 or 25 years.

2456 Q. As I understand your statement, it is that the development of the gas fields of West Virginia having begun

in the northern part of the state, has gone southward. Is that right?

A. That is correct.

Q. Where are today what you might call the largest, best or reserved gas fields of the state?

A. Probably in the southern portion of the state.

Q. In what counties?

A. Taking the counties of Roane, Clay, Kanawha, Boone, Raleigh, a portion of Fayette, Mingo, Logan, Wyoming, Wayne, Lincoln, Putnam, and probably Mason counties.

Q. Do you know whether there are towns of importance and villages in the counties a' out which I have been particularly asking you and naming the counties, other than the cities shown on the Exhibit map No. 30?

A. There are.

Q. I want to know whether you know that there are?

A. Yes, I know that there are. On this map we have only attempted to show the cities of the different counties and a few places where we want special attention in regard to some pipe line connections.

Q. Can you state whether the United States Geological Survey reports show the state having the largest production of natural gas?

A. It does.

2457 Q. Will you state, please, from the information you obtain from that source, the state having the largest production of natural gas? I am not asking the quantities, but just the fact.

A. Since 1909 West Virginia has been the first in the production of natural gas.

Q. You mean beginning with 1909 or after the year 1909?

A. I think it is beginning with 1909.

Q. I thought it was 1910.

A. I thought so too until this morning.

Q. I will ask you to refer to the United States Geological reports and state the quantities shown by such reports to have been produced in the State of Pennsylvania for the year 1909 and the quantity produced in the State of West Virginia for the same year.

A. In the year 1909 there was produced in Pennsylvania 127,697,104 M cu. ft. and in West Virginia there was produced 166,435,092 M cu. ft.

Q. What state is the next largest producer of natural gas?

A. In 1909 Kansas was the third.

Q. I mean the next, the second.

A. Pennsylvania.

Q. What is today the next largest producer of natural gas, I mean next to the State of West Virginia.

A. I cannot give you beyond the year 1918.

2458 Q. Then you may state what state was the second largest producer of natural gas in the year 1918.

A. Oklahoma.

Q. What was the third?

A. Pennsylvania.

Q. What was the fourth?
A. Ohio.
Q. The fifth?
A. California.
Q. On yesterday in reply to questions you stated the production of natural gas—the production and consumption of natural gas in the State of West Virginia, including the gas sold in Maryland, and also the production and consumption of natural gas in the State of West Virginia, exclusive of Maryland. Have you prepared or had prepared under your charge and supervision, a diagram showing the production and consumption of natural gas in the State of West Virginia, including gas sold in Maryland and a diagram of the production and consumption of natural gas in the state of West Virginia exclusive of Maryland?
A. I have.
Q. From what sources did you obtain the information upon which you made the diagrams of production and consumption of natural gas in the State of West Virginia including gas sold in Maryland and exclusive of gas sold in Maryland?
A. From the published reports of the United States Geological Survey for the natural gas including sold in Maryland and
2459 from the published reports of the United States Geological Survey and the Public Service Commission for natural gas excluding sold in Maryland.
Q. When you refer to the United States Geological Survey, you mean the same volumes you referred to and identified yesterday?
A. I do.
Q. I hand you a diagram of production and consumption of natural gas in the State of West Virginia, including gas sold in the State of Maryland, which for the purpose of identification will be marked West Virginia Exhibit No. 31, and a diagram of production and consumption of natural gas in the State of West Virginia exclusive of Maryland, which for the purpose of identification will be marked West Virginia Exhibit No. 32, and will ask you if these are the same diagrams made by you or under your direction and supervision and based upon the sources of information stated by you.
A. They are.

The State of West Virginia now offers and files as part of the record Diagram of Production and Consumption of Natural Gas in the State of West Virginia (including gas sold in Maryland), marked West Virginia Exhibit No. 31, and Diagram of Production and Consumption of Natural Gas in the State of West Virginia (exclusive of Maryland) marked West Virginia Exhibit No. 32.

Q. You have stated that you have information respecting the use of natural gas by people living in the county of Wetzel,
2460 Monongalia and other counties inquired about. I will now ask you if you know whether the people living in those counties and using gas, have built their homes and equipped them

for the use of natural gas therein as fuel and for illuminating purposes.

A. I do.

Q. You may state what the fact is in this respect.

A. The new buildings and buildings constructed for the past few years, were constructed particularly for the use of natural gas for fuel.

Q. Do you know whether the industries in—or certain industries in these counties are using and have been using natural gas for fuel?

A. I do.

Q. You may state what the fact is in respect thereto.

A. A number of industries have been built and are producing—were so located for the reason that they could utilize natural gas for fuel. That is especially true in the counties of Ohio, Marshall, Wetzel, Marion, Monongalia, Harrison, Doddridge, Tyler, Pleasants, etc., Wood.

Cross-examination.

(By Mr. Weil:)

Q. Mr. Krebs, beginning the cross-examination as usual at the bottom instead of the top, taking up the last testimony which you gave, calling your attention to Exhibits 31 and 32. It is a fact, is it not, as shown by those Exhibits, that the industrial
2461 consumers in the State of West Virginia consume about four and a half times as much as the domestic consumers, in round numbers, not being accurate?

A. It is.

Q. And for each of the years, 1914, 15, 16, 17 and 18.

A. It is.

Q. Those counties in West Virginia which you testified were dependent upon natural gas for fuel, before natural gas was discovered in those counties, burned either wood or coal, didn't they?

A. Yes, sir.

Q. And within those counties where coal is not produced in the county, coal can be shipped therein as in other sections of the United States?

A. It can.

Q. If I remember your testimony correctly, you stated that you obtained practically all of your figures in these respective exhibits that have been offered in evidence by the State of West Virginia, from these reports of the United States Geological Survey for the respective years.

A. Yes, sir.

Q. And also some figures that you obtained which each time you have specifically named, from the Public Service Commission records of West Virginia?

A. Yes, sir.

Q. Now you gave us in all of these reports—from this report,

for example, of the State of West Virginia, Nos. 20 and 21,
2462 to illustrate, Chart Showing Consumption of Natural Gas for Industrial Purposes in the State of West Virginia, including and excluding, respectively, Maryland, and the same with reference to Pennsylvania, Ohio, Indiana and Kentucky, a certain item marked "Field, Power (boilers, gas engines, etc.)"?

A. Yes, sir.

Q. Will you point out to us anywhere in these reports of the United States Geological Survey for the years 1914, 15, 16, 17 or 18, anything which shows that this item included the use of gas in the field for power by the respective producing companies or by the natural gas companies in their compressing stations, etc., etc. or in connection with their operations for the production of gas?

A. On page 1073 of the report of 1917 of the United States Geological Survey for "The Mineral Resources of the United States," published September 20, 1919, is the following quotation: "It is estimated that in all about 70,771,137 M. cu. ft. of natural gas sold at and for the rate of 6.98 cents a thousand cubic feet, was consumed for manufacturing purposes in West Virginia in 1917, and that 23,459,446 M. cu. ft. sold at and for the rate of 6.91 cents, was consumed in the oil fields in the direct development of power."

Q. Is that your answer to my question?

A. That is the specific answer to a portion of your question.

2463 Q. Well, did you have—did you rely upon the statement as contained in this report as showing the amount of gas used by the oil and gas companies in their own operations and which was not sold to anybody but used by themselves?

A. I took up that matter further with the Chief Clerk of the United States Geological Survey and from his statement inferred that this—the industrial gas consumed contained the field, the amount consumed in the field.

Q. Then as a matter of fact these figures are not obtained, that you have given us, wholly from these reports of the Geological Survey, but from what somebody told you was included in some of these figures?

A. From the officials of the Survey.

Q. I do not care who it was, but from what somebody told you?

A. Yes, sir.

Q. And it is not contained then in these reports?

A. Yes. Take the same report referred to, on page 1061 is the following notation: "Under other industrial (power) there was consumed in the year 1917 in West Virginia 23,459,046 M. cu. ft. of gas."

(Mr. Blue:)

Q. You mean that appears in the table?

A. In the table.

(Mr. Blue:)

Q. Appearing at that page?

A. Yes.

2464 Q. Does that show—that table shows average price cents per M. cubic feet, 6.91. Does not that show that that gas was sold to somebody by these respective producing companies or gas companies, and not such gas which they themselves produced and used in their own operations?

A. It shows the average price obtained for that gas whether it is sold to themselves or to other individuals.

Q. Do you not know as a matter of actual practice from your knowledge of the operations in the field that both the natural gas companies and the producing companies, do not measure the gas which they supply to themselves for their own use in their own operations and make no charge to themselves for the use of that gas?

A. I know that very few of them measure it.

Q. Yes?

A. But I know of a number of them that estimate the amount used and so include — in their statements in making out their financial reports.

Q. Do they make any charge to themselves at any rate for the use of that gas in their own operations?

A. I think that most of them are utilizing it in making out their financial reports.

Q. None of that is contained in these geological surveys, are they?

A. Not specifically.

Q. Now I call your attention to the statement contained in the Report of Natural Gas in 1915 of the United — Geological
2465 Survey, following, page 927: "The term 'production' as applied to the output of natural gas is used in this chapter in a restricted sense to designate only that portion of the natural gas that found commercial utilization during the year in review. Production as here employed is properly considered synonymous with consumption and were there no interstate transportation of natural gas, the use of the former term would be unnecessary." Does that not show that the production as used in the report is that production which finds commercial utilization by sale to consumers?

A. Yes, sir, it may also include themselves.

Q. If it was intended to include that quantity of gas which was used by the producers themselves or the natural gas companies in their own operations, would it not have been so stated when the terms were being thus defined?

A. It does state in what I read to you at page 1073.

Q. Now calling your attention to Exhibit No. 31, as to the source of your figures, you have given here and read into the record in your former testimony the quantity of industrial consumption in the state of West Virginia and the domestic consumption in West Virginia, and the total of those amounts. You also gave the amount of production in West Virginia and also gave the amount exported or sold from West Virginia. In exam-ing that exhibit we find that the figures given for the exported or sold is the difference between the total consumption in the state and the total production in the state.

A. Yes, sir.

2466 Q. There is nothing in the Geological Survey or reports which gives this quantity thus exported from the State of West Virginia and your figures are obtained, as stated, by deducting what you have given here as the total consumption from the total production. That is the fact, is it not?

A. Taking on page 949 in The Report of Natural Gas in 1915 of the Mineral Resources of the United States, published December 29, 1916, we have the following notation: "Of the total volume of natural gas produced in West Virginia in 1915 about 92,135,038 ft. was consumed within the state in that year, the remaining 151,869,121 cu. ft. valued at $29,583,792, being marketed at Pennsylvania, Ohio, Indiana and Kentucky."

Q. Calling your attention to your Exhibit 31, the consumption which you give there of gas in West Virginia instead of being 92,135,038 M. cu. ft. as consumed within the state, you have given us 94,976,705 M. cu. ft. and instead of giving us the amount exported from the state as given in the passage which you have just read, 151,869,121 M. cu. ft., you have given us 149,027,454 M. cu. ft. Why did you not use the figures that were given in this report instead of the figures given here?

A. Exhibit No. 31 includes the gas shipped from West Virginia to Maryland and naturally includes that gas that was consumed in Maryland.

2467 Q. Well, why did you not use then in Exhibit No. 32 the exact figures as given in this report instead of the figures which you give, which differ therefrom?

A. The figures given in Exhibit No. 32 are as follows: The amount of gas consumed in West Virginia in 1915 is 92,215,662 M. Cu. ft., and the figures as given on page 949 are 92,135,038 M. cu. ft., and the total amount of gas shipped out of West Virginia in the same year is given in Exhibit 32 as 151,788,497, and the amount shown on page 949 gives 151,869,121 M. cu. ft., showing a very little difference in each one. In making up these reports I have utilized the tables given on page- 938 and 939 of this report.

(Mr. Blue:)

Q. What report, and state it there.

A. The report referred to in my previous answer, that is, The Report of Natural Gas in West Virginia, 1915, published December 29, 1916 by the United States Geological Survey.

Q. Now returning to my question, from examinations of these Exhibits 31 and 32, is it not the fact that you ascertained the amount exported by deducting the total consumption in West Virginia from the total production in West Virginia, and gave us the exact difference between the two as the amount exported or sold?

A. Yes, sir.

Q. That is the fact?

A. Yes, sir.

2468 Q. Whether or not that corresponded with the statements in the Geological Survey or not?

A. I took these figures from the Geological Survey reports in the tables published by them.

Q. Calling your attention to this same report from which you have quoted, I call your attention to the following statement. In the Exhibit 22 you have given for the year 1915 the amount of gas produced in Pennsylvania as 113,691,690 M. cu. ft. and consumption as 176,367,235 M. cu. ft., and the amount purchased 62,675,545 M. cu. ft., being the exact difference between the production and consumption in the state. And that is where you obtained that figure of the amount purchased, is it not?

A. It is.

Q. Now I call your attention to this same statement, to this same book of the Geological Survey, Natural Gas in 1915, to which we have heretofore referred, and to the following statement, page 946: "Of the total quantity of natural gas consumed in Pennsylvania in 1915 about 75,981,315 M. cu. ft., valued at $12,850,131, was piped into the state from outside sources, the greater part from West Virginia, a small quantity from New York supplied as a matter of convenience to consumers residing on the Pennsylvania side of the state boundary." Why did you not use that quantity as given by the report of the Geological Survey of about 76,000,000 M. cu. ft. instead of the 62,675,545 M. cu. ft. which you actually used?

2469 A. I used the same table tabulated on page- 934 and 935, 936 of a state report of the United States Geological report.

Q. But those tables do not show the amount exported, do they?

A. They do not.

Q. You simply took the amount of the total consumption and deducted from it the amount of the total production and thus obtained the amount purchased?

A. I did, and as obtained from pages 934 to 936, inclusive, of the report quoted in my former answer.

Q. But that only shows the amount of production and consumption but not the amount exported?

A. You mean imported?

Q. Imported or exported, as the case might be.

A. That shows the amount of production and the amount of consumption.

Q. But it does not show what quantity was either exported or imported by any of the states?

A. It does not.

Q. Now as further affecting the accuracy of these figures given by you, let me ask you if you do not know that from its production Pennsylvania in the year 1915 exported to consumers in New York, Ohio and West Virginia a considerable volume of gas, and I call your attention to page 945 of the same report of the Survey to which we have referred, to the following paragraph, quoted:

2470 "Although the quantity of gas produced in Pennsylvania was insufficient for the needs of gas consumers within the state, a considerable volume of gas was piped out of the state to supply consumers in New York, Ohio and West Virginia. The distri-

bution of Pennsylvania gas in Ohio and West Virginia is to consumers in cities and towns adjacent to the Pennsylvania border who can be supplied more conveniently from Pennsylvania sources than from sources in their own states."

A. What page was that?
Q. 945.
A. Yes, sir.

2471 Q. Those figures given by you on these Exhibits, and particularly on No. 22, would have to be further corrected by adding to the amount imported, or purchased, the quantity exported from the State into West Virginia, Ohio, and New York, whatever that amount might be?

A. Yes, sir.

Q. Now, you do not know, do you, calling your attention to your Exhibits 20 and 21, chart showing the consumption of natural gas for industrial purposes in the State of West Virginia, that the users of natural gas producing their own supplies, such as carbon black manufactures and other industrial enterprises producing their own supplies of natural gas—you know they do not measure the gas supplied to themselves for their own uses?

A. Some of them do.
Q. How is it as to the carbon black?
A. Some of them do.
Q. Is not that true as to the vast majority of them, that they do not?
A. Yes, sir.
Q. Is not the same true, as to the vast majority of the industrial consumers who produce gas for their own uses, that they do not measure?
A. They do not.
Q. And all such figures are simply estimates then, made by whosoever is making up these reports?

A. It is. If you will allow me to make an explanation,

2472 I discussed that with one carbon black man, and asked him particularly, if that was not an estimate of the amounts of gas that they actually consumed. He said "It is, and it is not, because we have enough knowledge to believe that our estimate is approximately correct."

Q. I call your attention to page 949, Report of 1915, to which we have already referred, and to the following figures: "One industry that is almost entirely confined to West Virginia is the manufacture of carbon black, for which a large supply of gas, that can be obtained at a low price, is requisite. It is estimated that 18,988,070,000 cubic feet of natural gas valued at $445,455.00 an average of $2.34 a thousand was used by carbon black factories in West Virginia in 1915. It is estimated from the burning of this volume of gas 17,262,000 pounds of carbon black was recovered." Does that paragraph, showing the amount of gas used for carbon black manufacture, represent purely an estimate?

A. It does.

Q. And that it is the fact, is it not?
A. It is.
Q. You know from your knowledge of the operation of the natural gas industry, that the gas produced as it comes from the wells into the lines, is not measured, but is only measured as supplied to consumers or sold to wholesalers, that is, to other companies—natural gas companies—by the natural gas producing companies?
2473 A. Yes, sir.
Q. And the only way in which an accurate, or substantially accurate, statement of the amount of gas produced could be obtained, would be by placing meters or measuring stations, as the case may require, at each well where it put its production into the lines?
A. Yes, sir.
Q. And this system of measuring has never been adopted heretofore by the natural gas companies?
A. It has not, but a number of new wells now have natural gas where the gas is sold at so much per thousand by the owners of the land as a royalty, that being the case, they will sooner or later have to come to this meter system.
Q. They will only have to come to that meter system on those properties where the leases so require hereafter?
A. Yes, sir.
Q. You know, do you not, from the knowledge of the business, that the amount of gas consumed by producers, in connection with their wells supplying power and light in their operations by the natural gas companies in the operation of their power stations and compressor stations, aggregates an enormous quantity of gas, does it not?
A. It does.
Q. And if it should appear as a fact that that quantity of gas was not included in the amount of gas used in the general designation in the Geological Survey reports, under the subject "Other Industrial" (power) after giving the gas consumed, domestic, in-
2474 dustrial, manufacture and other industrial, it would add to the amount of consumption an enormous quantity of gas annually, would it not?
A. It would.
Q. Calling your attention, again, to Exhibits 22, 23, 24, 25, 26, 27, 28, 29 and 31, you show on Exhibit 31, the amount of gas exported from West Virginia, as determined by, as you have already stated, deducting the amount consumed in West Virginia from its total production? West Virginia exports to Indiana, Kentucky, Ohio and Pennsylvania, does it not?
A. It does.
Q. And also to Maryland?
A. It does.
Q. But, in Exhibit 31, is included Maryland?
A. Yes, sir.
Q. Now, then, does it export to any other States?
A. Not to my knowledge.

Q. In the Exhibits which you have given us of Indiana, Kentucky, Ohio and Pennsylvania, the figures show that Pennsylvania, in 1917, imported 68,862,292 M. cubic feet; Ohio 96,865,138 M. cubic feet; Indiana 4,055,012 M. cubic feet; Kentucky 9,251,366 M. cubic feet. Now, these aggregates imported by those States from all sources amount to 179,033,478 M. cubic feet, that is correct is it not?

A. I think it is.

Q. And yet, you report, as exported from West Virginia, including Maryland, on Exhibit 31, in the year 1917, 193,128,909
2475 M. cubic feet, or 14,095,101 M. cubic feet, more than all of those States imported from all sources. Does not that indicate to you that this method which you adopted of obtaining the amount of gas exported from the State of West Virginia into other States is not reliable?

A. There appears to be some discrepancy in the total amount. On page 1072 of the Natural Gas Report of the United States Geological Survey, published September 20, 1919, we have the following——

Q. (Interrupting.) That is for the year 1917?

A. That is for the year 1917 yes. "In addition to supplying the greater part of its own requirement of natural gas in 1917, West Virginia supplied a volume of natural gas estimated at 196,924,922,000 cubic feet, and having a market value of $47,745,196 to consumers in Pennsylvania, Ohio, Indiana, Kentucky and Maryland."

Q. That shows that the gentleman making the estimate in the Geological Survey is also wrong, does it not?

A. It does.

Q. Now, is it not possible, as explaining this discrepancy which is admitted, and which, apparently, we are unable to explain, that whatever the production in West Virginia, before we estimate the amount exported, we must deduct a large amount of gas used for some purposes and possibly, in the operation of these companies, to which I have already referred?

A. It is possible.

Q. Now, taking the amount of production, as given in
2476 all these Exhibits made by you, for Pennsylvania, for example, you did not take into account, as I already asked, the gas exported to other States, and the same is true of Ohio, is it not?

A. Yes, sir.

Q. Calling your attention to page 952 of the 1915 Report to which we have already referred, "Of the natural gas produced in Ohio in 1915, practically all was consumed within the State, a small volume in the aggregate, being piped into contiguous parts of West Virginia and of Indiana, to supply consumers adjacent to the State boundaries." That shows that some part of that gas was exported, does it not, from Ohio?

A. It does. It further shows, reading the remainder of the same paragraph, "Of a total volume of natural gas consumed in Ohio in 1915, about 68,186,364,000 cubic feet, valued at $14,729,341 was piped into the State from West Virginia, Pennsylvania, and Indiana;

the greatest portion coming from West Virginia. My exhibit shows that Ohio imported 67,214,757 M. cubic feet, slightly less than 1,000,000 feet than the figures just read.

Q. The same report of the Geological Survey, as to Indiana, shows, page 958, that Indiana imported some of this gas from Ohio, does it not?

A. It does.

Q. And the same volume, at page 961, shows that Illinois supplied domestic and industrial consumers in Vincennes, Indiana?

A. It does.

2477 Q. If, then, we add to the gas imported into Indiana, Kentucky, Ohio and Pennsylvania, from another State, and deduct that from the total amount of gas imported into those States, during the year 1917, which I have used as an illustration, then that will increase, by that amount, the difficulty of explaining what became of the gas you report as exported from West Virginia, in the year 1917, which, as shown by the figures, is already over 14,000,000,000 feet more than the total amount imported into those respective States?

A. It will, by using those figures.

Q. And if, in addition to that, we deduct form the total production, in those several States, the amounts of gas which those respective States exported to other States, it will still further emphasize these discrepancies, will it not?

A. It will, unless you take into consideration what they imported from other States, excepting West Virginia.

Q. Now, you know, do you not, as a fact, that the Wheeling District is supplied by the Natural Gas Company of West Virginia, with its natural gas?

A. I do.

Q. And that the Natural Gas Company of West Virginia obtains its supply of natural gas from other States than West Virginia?

A. Yes, sir.

Q. And supplies that district with gas brought into West Virginia, from other States?

A. Yes, sir.

2478 Q. That section of West Virginia, the Wheeling District, is one of the most populous sections in West Virginia, is it not?

A. It is.

Q. And has the largest number of industrial plants in operation?

A. It has.

Q. And some of them very large plants?

A. Yes, sir.

Q. And some of them using gas in some of their operations?

A. Yes, sir.

Q. You gave us some history of the lamp black industry. Before the discovery of natural gas, lamp black was used, was it not?

A. It was.

Q. And what fuel was used then?

A. They used a great deal of the same fuel they use today. They used bone black; they used coal or coke and carbon.

Q. And there are lamp black manufacturers in different parts of the United States which are making lamp black from other fuels?

A. There are some.

Q. Do you know also, as a matter of fact, that the manufacture of carbon or lamp black, as it is commonly called, from natural gas, is a most extravagant and wasteful use of natural gas, do you

2479 not, if the gas can be used for any other purpose?

A. If they are getting the amount of black out of the gas which they have recently reported to me, I do not see that there is such an enormous wast-. If 1,000 cubic feet of natural gas will make one pound of carbon black, there is no waste to that.

Q. And if it would make two pounds, it would be less waste?

A. Still less waste. There are places, where they claim that 500 cubic feet will make one pound. The only waste there would be the heat.

Q. Do you know, as a matter of fact, that the Federal Committee on Conservation of Natural Gas, connected with the Bureau of Mines, has recommended that no natural gas be used for carbon black manufacture as a part of its program of conservation?

A. I do not know officially, whether that is a fact or not, but I do know, that during the winters of 1917 and 1918, when all industries were stopped by the Fuel Administration, that the carbon black plants were permitted to go ahead and were not stopped. It was the only industry, practically, that was not stopped.

Q. Was not that because they needed carbon black in connection with the making of powder and other explosives, and in connection with the activities of the war?

2480 A. They needed it for the manufacture of rubber tires and printing Liberty Bonds. Every morning, in reading our morning papers, we have the carbon black before us. They use it for printing, and there has no substitute been found thus far with which they can make printers' inks as fine, and print on as fine paper as can be done with carbon black.

Q. You know, as a fact, do you not, that the carbon black manufacturers of West Virginia are moving out to Louisiana and other places?

A. I do, for the reason that the natural gas is much cheaper in Louisiana than in West Virginia.

Q. Calling your attention to these maps, 30 and 30A, which you say were reproductions in composite form of the Wyer Exhibits; you do not mean that, do you, that you reproduced all of those maps in composite form, because you have only included in these exhibits such portions as cover portions of West Virginia?

A. That is all.

Q. And those portions, showing these lines as contained on those respective maps running into other States outside of West Virginia, are not included in your Exhibit?

A. Nor are the explanations that are on Mr. Wyer's maps in-

cluded. Our aim in showing that, was to show the interlacing of the different pipe lines running through a portion of the State.

Q. And in order to show that more effectively—the inter-
2481 lacing—you have put upon your Exhibit 30, the gathering lines and other lines, such as branch lines, etc., in just as heavy ruling as you do the main transportation line of these respective companies?

A. We had to make it heavy enough so that the ink would take effect on the map; having different colored ink it was not practicable to draw a very thin fine line. Otherwise, it would not have been visible to the eye.

Q. Was the ink that you were using made out of carbon black?

A. Yes, we used the best possible ink that we could get.

Q. I notice upon these maps some lines that may be misleading to the Court, unless explained. I assume they occur by reason of the fact, as you explained yesterday, that you used maps that had been upon your drawing tables for some years, as, for example, all through the southern portion of this map mor- particularly, a lot of lines in Kanawha, Lincoln, Nicholas, Wayne, Fayette, Boone, Logan, Mingo, Raleigh and Wyoming and McDowell Counties, which lines do not purport to represent, do they, any gas lines or any pipe lines?

A. They do not. They represent streams of water.

Q. Those were on the map which you used to represent streams, etc.?

A. Yes.

Q. Do not they also represent the County lines and the township lines?

2482 A. Yes. Just right there, our draftsman started to put all those in. When I came to it I asked him not to exhibit the county lines.

Q. Therefore, the northern half of the map, I should say, substantially, does not contain those stream lines and others?

A. It does not.

Q. While the southern part of it does?

A. It does.

A recess was here taken until 2:00 o'clock p. m.

2483 Supreme Court of the United States, October Term, 1919.

THE COMMONWEALTH OF PENNSYLVANIA, Complainant,

vs.

THE STATE OF WEST VIRGINIA.

THE STATE OF OHIO, Complainant,

vs.

THE STATE OF WEST VIRGINIA.

Before Levi Cooke, Esq., Commissioner.

Afternoon Session, Friday, January 7, 1921.

Defendant's Testimony.

2484 Friday Afternoon, January 7, 1921.

And now, the hour of 2:00 o'clock, p. m., having arrived, hearing resumed, pursuant to adjournment.

C. E. KREBS resumes the stand.

Redirect examination.

Mr. Blue:

Q. I hand you published report of the United States Geological Survey, showing production of natural gas in 1914 and 1915, covering the mineral resources of the United States—Part 2—pages 927-1015, published December 25, 1916, and being one of the reports referred to on your direct and cross-examination, and call your attention to pages 934 to 936, inclusive, and particularly to the tables appearing thereon, headed, "Natural Gas Produced and Consumed in the United States in 1914 and 1915," "Distribution of Natural Gas Consumed in the United States in 1914," and "Distribution of Natural Gas Consumed in the United States in 1915," and will ask you if those tables at those pages, have the figures from which you obtained your information and the figures which you used in stating and setting forth the quantities of gas produced in the states of Pennsylvania, Ohio, Indiana, Kentucky and West Virginia, and the industrial consumption thereof in those states, for the years 1914 and 1915?

A. They have.

Q. And do the same figures appear thereon for the production in the states named, and the consumption in the states named
2485 of gas for the different purposes stated in the previous question?

A. They do.

Q. In the tables, to which I have referred, do the tables appear to give the amounts consumed for industrial and domestic purposes, as well as the total amount of consumption in the State of Pennsylvania?

A. They do.

Q. Are your figures on Exhibit No. 22, in reference to the State of Pennsylvania, as to the production of gas therein and the consumption thereof therein for industrial and domestic purposes, the same as the figures set forth in the tables appearing at the pages of the book handed you for the years 1914 and 1915?

A. They are.

Q. In the same tables, at the pages of the book handed to you, are there the figures showing the production of gas in the States of Ohio, Indiana, Kentucky and West Virginia, for the years 1914 and 1915, and the consumption in those states of gas for industrial and domestic purposes?

A. Those figures are there.

Q. Are the figures before set forth in West Virginia Exhibit No. 24, of the amount of gas purchased in Ohio and consumed in that State, for industrial and domestic purposes, the same as the figures in the tables in the book handed you?

A. They are.

Q. Are the figures in West Virginia Exhibit No. 26 in
2486 respect to the State of Indiana for the years 1914 and 1915, showing the production of gas in that State for those two years and the consumption thereof for industrial and domestic purposes the same as appear in the book handed to you?

A. They are.

Q. And are the figures for the State of Kentucky for the year 1914, as appears in West Virginia Exhibit No. 28, showing the production of natural gas in that State for the years 1914 and 1915, and the consumption thereof for industrial purposes, the same as appear in the tables in the book handed to you? I refer also to the year 1915, as regards West Virginia Exhibit No. 28.

A. They are.

Q. Do the same figures appear on West Virginia Exhibit No. 31, showing the production of natural gas in the State of West Virginia for the years 1914 and 1915, and the consumption thereof in that State for industrial and domestic purposes, as appear and are set out in the tables of the book handed to you?

A. They do.

Q. I hand you a publication of the United States Geological Survey covering "Mineral Resources of the United States, 1916—Part 2—published May 4, 1918," and call to your attention tables appearing at pages 590 to 591, inclusive, showing "Natural gas consumed in the United States in 1915" "Distribution of Natural Gas Consumed in the United States in 1916," and will ask you to state if those are the tables from which you got your information in making up your charts and diagrams in the record as West
2487 Virginia Exhibits Nos. 22, 24, 26, 28 and 31, for the year 1916?

A. They are.

Q. Are the figures showing the amount of gas produced and consumed in the States of Pennsylvania, Ohio, Indiana and Kentucky, in the year 1916, as shown in the Exhibits referred in the immediately preceding question, the same as appear in the tables appearing at pages 590 and 591?

A. They are.

Q. I hand you United States Geological report covering "Mineral Resources of the United States, 1917—Part 2—pages 1051-1136, published September 20, 1919," and call your attention to the tables therein appearing at 1056-1058, and will ask you if it was from those tables that you got your figures of the production and consumption of gas for industrial and domestic purposes in the States of Pennsylvania, Ohio, Indiana, Kentucky and West Virginia, for the year 1917, as shown in West Virginia Exhibits Nos. 22, 24, 26, 28 and 31?

A. It was.

Q. Are the figures showing the production of natural gas in the year 1917, in the states of Pennsylvania, Ohio, Indiana, Kentucky and West Virginia, and the consumption thereof in the several states for industrial and domestic purposes, the same as the figures in the book last handed you?

A. They are.

Q. I hand you an advance sheet of the United States Geological Survey showing "Natural Gas produced and consumed in
2488 the United States in 1918," "Distribution of Natural Gas Consumed in the United States in 1918," "Distribution of Natural Gas Consumed in the United States for Industrial Purposes for 1918," and I will ask you if it was from such advance sheets that you obtained the information and the figures showing the production of natural gas for the year 1918 in the states of Pennsylvania, Ohio, Indiana, Kentucky and West Virginia, and the consumption thereof in said states for the year 1918 for domestic and industrial purposes, as you have set the same out in West Virginia Exhibits Nos. 22, 24, 26, 28 and 31?

A. It was.

Q. Are the figures appearing in West Virginia Exhibits Nos. 22, 24, 26, 28 and 31, showing the production of natural gas in the states of Pennsylvania, Ohio, Indiana, Kentucky and West Virginia, and the consumption thereof for industrial purposes and domestic purposes in those states, the same as those appearing in the advance sheets of the United States Geological Survey for the year 1918?

A. They are.

Q. I hand you again United States Geological Survey publication of "Mineral Resources of the United States, 1915—Part 2—pages 927-1015, published December 29th, 1919," and will ask you to read into the record the paragraph thereof appearing at page 927, a part of which paragraph was read to you on your cross-examination by Mr. Weil.

A. "The term 'production' as applied to the output of natural gas is used in this chapter in a restricted sense to designate only

2489 that portion of the natural gas that found commercial utilization during the year in review. No attempt has been made to compile data concerning the volume of gas, amounting to many millions of cubic feet, that reached the surface and escaped without performing any useful service. 'Production' as here employed is, broadly considered, synonymous with 'consumption', and were there no interstate transportation of natural gas, the use of the former term would be unnecessary. As, however, natural gas can readily be transported from productive localities in one State to markets in adjacent States, production and consumption in a given area rarely balance and the necessity for a distinction becomes apparent, as is evident from following example: The State of New York produced, in 1915, nearly 8,000,000,000 cubic feet of natural gas, whereas its consumption in the same period was in excess of 18,700,000,000 cubic feet, showing that more than one-half the natural gas supply of New York was obtained from fields outside the State. The term 'consumption', as the term implies, designates the quantity of natural gas utilized within a specified area, usually a civilian division, irrespective of the source of the gas."

Q. I will ask you to look at publication of the United States Geological Survey covering "Mineral Resources of the United States, 1916—Part 2—pages 585-678—Published May 4, 1918," and will ask you to read into the record a paragraph thereof appearing at page 586.

A. "The term 'production,' as applied in this report, is used in a restricted sense to designate only that portion of the natural
2490 gas actually produced during the year specified which found commercial utilization during that year. In this sense it is synonymous with 'consumption,' and, were there no interstate transportation of natural gas, the use of the former term would be unnecessary. As natural gas is freely transported from one State to another, however, the term 'production' is convenient for designating the output of natural gas in a given State, irrespective of its place of consumption, and the term 'consumption' is appropriate for designating the natural gas utilized in a given State, irrespective of its place of production."

Q. I will ask you to read into the record paragraph appearing at page 1051 of the United States Geological Survey publication of "Mineral Resources of the United States, 1917—Part II (pages 1051-1136), Published September 20, 1919."

A. The term 'production,' as applied in this chapter, is used in a limited sense to designate only that portion of the natural gas actually produced during the year specified which found commercial utilization in that year. It excludes the large volume of gas (of which there is no reliable gage) that finds its way to the surface of the earth in the oil and gas fields of the country and escapes without performing any useful service. In a national sense it is synonymous with 'consumption', and, were there no interstate transportation of natural gas, its use would be inexcusable. As natural gas is freely transported from one State to another, however, the term
2491 'production' is convenient for designating the output of gas in a given State irrespective of its place of consumption, and

the term 'consumption' is appropriate for designating the gas utilized in a given State irrespective of its place of production."

Q. In making up the charts or diagrams introduced by you did you make the same up, in the sense of production and consumption, that you understood those terms to mean in the Geological Survey Reports?

A. I did.

Q. On your cross-examination you were asked respecting lamp black and carbon black? Is there any distinction between lamp black and carbon black?

A. There is.

Q. Is carbon black made out of natural gas?

A. It is.

Q. What is the distinction between lamp black and carbon black?

A. Lamp black is usually impure black, which can also be made of natural gas. It is that portion of the natural gas that escapes in the way of smoke. It is also made out of coal and other materials and is not as pure as carbon black.

Q. Can carbon black be made from coal?

A. Lamp black can be but I doubt very much if carbon black can be, owing to the impurities of the coal such as sulphur and other impurities in our coal.

Q. Which is used in the manufacture of automobile tires
2492 and printers' ink, lamp black or carbon black?

A. Carbon black.

Q. On cross-examination you were asked by Mr. Weil yesterday whether there was gas piped from Pennsylvania, and probably also from Ohio, into the State of West Virginia, and you answered that your information was to the effect that there is some gas piped into the State of West Virginia from the State of Pennsylvania and, it may be, also, from the State of Ohio. I am not sure whether you were asked that or not. I will ask you to state now whether the United States Geological Reports to which your attention has been called, particularly the table to which your attention has been called, indicate that the gas piped from Pennsylvania into West Virginia, and in case any is piped from Ohio into West Virginia, appears by any foot note to be charged to the consumption of gas in Pennsylvania or Ohio?

A. It does not. The only foot note is this: "It includes gas piped from West Virginia and consumed in Maryland". That is the only foot note I see in regard to gas consumed in West Virginia or produced in same.

Q. Mr. Weil on your cross-examination inquired of you yesterday (whether facetiously or not, I do not know,) why your lines were so heavy on Exhibit Map 30. I will ask you to state whether or not the lines, as you placed them on Exhibit Map 30, are heavier relatively, or, indeed, as heavy, as the lines shown on Mr. Wyer's may, introduced by the State of Pennsylvania?

2493 A. They are not as heavy relatively as those introduced by the State of Pennsylvania.

Q. Are there any lines on West Virginia Exhibit No. 30, or the

photographic copy thereof other than the lines as appear on the maps introduced through Mr. Wyer?

A. None as far as I know.

The witness then withdrew.

J. S. LAKIN, called as a witness, having been first duly sworn, testified as follows:

Direct examination.

Mr. Blue:

Q. Where do you live, Mr. Lakin?

A. 1409 Virginia Street, Charleston, West Virginia.

Q. What official position, if any, do you hold in the State of West Virginia?

A. I am a member of the State Board of Control of West Virginia.

Q. How long have you been a member of that board?

A. Since June 30th, 1909.

Q. State in a short, concise way the general duties of the State Board of Control of West Virginia.

A. The State Board of Control has charge of the financial and business affairs of the state educational institutions, and has full power to govern, manage and control all the penal, charitable and correctional institutions. It has charge of the property of the state owned away from the Capitol. It has charge of the financial
2494 and business affairs of any officer, board or agent of the State of West Virginia not having offices at the Capitol. It has charge of the state insurance, among other business matters of the state. In fact, it has charge of all the business of the state away from the Capitol.

Q. Of the several state institutions under the jurisdiction and supervision of the State Board of Control, how many of them use and have been using natural gas for heating, cooking, illuminating or any other purposes?

A. Seventeen of the state institutions use natural gas for some one or all of those purposes.

Q. Can you state the name of the utility that has been and that is now furnishing natural gas to the institutions under the control and supervision of your Board?

A. I have a list of them here that I could furnish. I do not know that I could name them all from memory. I think I can name them mostly from memory but I will furnish the list.

Q. I will ask you to furnish a list and read that list into the record, showing the institutions under your control which have used or may be now using natural gas and the utility furnishing the same.

A.—

"West Virginia Institutions under Supervision of the State Board of Control.

Educational Institutions.

West Virginia University, Morgantown, W. Va.
West Virginia Utilities Company, Morgantown, W. Va.
2495 Preparatory Branch West Virginia University, Keyser, W. Va.
West Virginia & Maryland Gas Company, Keyser, W. Va.
West Virginia Trades School, Montgomery, W. Va.
Montgomery Gas Company, W. Va.
Marshall College, Huntington, W. Va.
Huntington Development & Gas Company, Huntington, W. Va.
Fairmont Normal School, Fairmont, W. Va.
Monongahela Valley Traction Company, Fairmont, W. Va.
West Liberty Normal School, West Liberty, W. Va.
Manufacturers Light & Gas Company, Wellsburg, W. Va.
Glenville Normal School, Glenville, W. Va.
Glenville Natural Gas Company, Glenville, W. Va.
West Virginia Collegiate Institute, Institute, W. Va.
Charleston-Dunbar Natural Gas Company, Dunbar, W. Va.

Penal, Charitable, and Correctional Institutions.

Weston State Hospital, Weston, W. Va.
Keener's Oil & Gas Company, Weston, W. Va.
Spencer State Hospital, Spencer, W. Va.
G. L. Cabot, Spencer, W. Va.
Huntington State Hospital, Huntington, W. Va.
United Fuel Gas Company, Huntington, W. Va.
Fairmont Hospital No. 3, Fairmont, W. Va.
Monongahela Valley Traction Company, Fairmont, W. Va.
West Virginia Penitentiary, Moundsville, W. Va.
Manufacturers Light & Heat Company, Pittsburgh, Pa.
West Virginia Industrial School for Boys, Grafton, W. Va.
Comet Oil & Gas Company, Wheeling, W. Va.
2496 West Virginia Industrial Home for Girls, Industrial, W. Va.
Pittsburgh & West Virginia Gas Company, Pittsburgh, Pa.
State Tuberculosis Sanitarium, Terre Alta, W. Va.
Northern Natural Gas Company, Oakland, Md.
West Virginia Children's Home, Elkins, W. Va.
West Virginia Gas Company."

Q. Take them in the order in which you have just stated them, I will ask you to say the purposes for which you have been using, or may now be using, natural gas at the State University.

A. Until the Fall of 1919 we used natural gas at West Virginia University for heating, for cooking in the dormitories, for experiments in the agricultural experiment station work and for engines in the mechanical engineering department.

Q. The University has a mechanical engineering college as a part of the University?

A. It has. In 1917 the University was notified by the company then serving it, which I recall to be the West Virginia Traction and Electric Company, that that company desired to take out heating plant off their lines and burn coal. We declined to do this for the reason that to burn coal would require an additional outlay, additional equipment and additional firemen, and we had no funds to pay for this extra expense. But in 1918 the request was made again for us to use coal at this institution. In the Summer of 1918 we complied with their request by installing boilers. The boiler connections cost $17,000 additional expense. We began in the Fall of 1919 to use part coal and part gas and in the Fall of 1920 used coal entirely.

2497 Q. Well, then, for what purposes are you now using natural gas?

A. Using natural gas for heating water, heat for domestic science department and chemical plant, the green-houses and dormitories, cooking—and most of our equipment is arranged for gas.

Q. Do you know how long the university has geen using gas for general purposes?

A. It had abandoned its switch, and was using gas in 1909—I don't know; have no personal knowledge back of 1909, but it at one time used coal—and in 1909 the switch was abandoned and——

Q. And this notice to you—to your Board. When you got that notice you changed, or prepared to change, from the use of gas as a fuel to coal as a fuel in your boilers?

A. Yes, sir.

Q. For what purposes were those boilers used? I mean, what was the steam made in those boilers used for?

A. For heating all the buildings at the university, which I suppose, at that time, would be about 15—15 buildings to heat.

Q. And the amount you have already expended in changing your method of heating, or rather the amount you have expended in the change from gas as a fuel to coal as a fuel, has cost the State $13,000.00?

A. $13,000.00, and it also involved an increase on account
2498 of firemen from $125 00 per month to $600.00 per month, and when we have an efficient coal-burning plant there—as efficient as it was for gas—it will necessitate a cost of $40,000.00 additional.

Q. What is the attendance at the university?

A. The attendance at the university, and the professors, and other employes of the university, number about 2,000 at this time.

Q. You mean 2,000, including the faculty and the student body?

A. Yes, that is right.

Q. Do you know, within your own knowledge, whether the conditions applying to the university which required you to change from gas as a fuel to coal as a fuel extended to the community of Morgantown—to the City of Morgantown?

A. The request came from the West Virginia Traction & Electric Company, by Mr. Joseph McKinnon—stated that we were using

15,000 cubic feet of gas hourly, and that if we were cut off from the line they could then give better service to the domestic users of the town of Morgantown.

Q. The university is located at the town or city of Morgantown, in Monongalia County?

A. Almost in the City.

Q. In the County of Monongalia?

A. In the County of Monongalia—at the same time that we were asked to change from gas to coal there were three plants using large amounts of gas within a very short distance of the university,
2499 within the City of Morgantown, which could just have easily been asked to change—and may have been for all I know.

Q. Well, then, you had knowledge, or have knowledge, that they were? Or were they asked?

A. I know nothing of it.

Q. The next institution, in the order as you have stated them, is the Preparatory Branch of the West Virginia University, at Keyser. That institution is located at the town or city of Keyser, in the County of Mineral, is it not?

A. Yes, sir.

Q. Have you used, or do you use, natural gas as a fuel at the Preparatory Branch of the West Virginia University at Keyser?

A. We began using natural gas as a fuel at the Preparatory Branch as soon as the West Virginia & Maryland Gas Company built its line into Keyser, and are using it to-day, at least, as much as we can get—at this time.

Q. For what purposes have you been using, or do you use, natural gas now as a fuel at the Preparatory Branch of the University of West Virginia at Keyser?

A. For heating buildings, for heating water, for cooking, and for aiding in pumping.

Q. What has been your experience with natural gas there from the standpoint of the service rendered you by the company supplying you with gas?

A. The last three years the supply has been decreasing, so much so that, at times, we have not had gas enough to cook with,
2500 and one or two times it has been necessary to dismiss classes on account of poor gas supply, and we have recently enlarged our chimneys in one of our buildings for the purpose of enabling us to burn coal, at a considerable expense; and we have increased our heating plant with the same idea in view,—the chimney, having been built for gas, was not sufficient for coal to be——

Q. You mean you had put in gas equipment and built your chimneys for gas equipment?

A. Built chimneys for gas equipment—and the sudden change came. After the plant was prepared and the building erected, we found it necessary to use coal, and the chimneys did not give sufficient draught for the heating plant that was installed, and it was claimed that it was because it was too small.

Q. Does the change from your equipment to use gas at the Preparatory Branch at Keyser mean any expense to the State?

A. If—we are using at this time both gas and coal. If it becomes necessary for us to abandon gas as a fuel it will necessitate changing practically all of our equipment—every bit of it, pumping, heating, cooking, heating water——

Q. What do you mean by "pumping"? Do you mean that you pump your own water—furnish your water?

A. The water pressure at Keyser is not sufficient to run our building, and we get behind the water with an engine and pump it on up there through the buildings.

2501 Q. Do you know whether the West Virginia & Maryland Gas Company furnishes gas to the City of Keyser, and to that community, or whether it simply furnishes gas at that point to this State institution?

A. I don't know, personally. I know there is a gas company there, but I don't know whether it is under that name; they change the name; this company is under three different names to our different institutions.

Q. What are the different names?

A. At Elkins—we have a State institution there known as the West Virginia Children's Home—it is called there, the West Virginia Gas Company; at Keyser, we have the Preparatory Branch of the West Virginia University, and they are called the West Virginia & Maryland Gas Company; and at Terra Alta, we have the State Tuberculosis Sanitarium, and it is called the Northern Natural Gas Company.

Q. The fact about the matter is, these are sort of separate companies and constituent companies of the Eastern Oil Company, are they not?

A. I am not familiar with that company. I would like to make an explanation on my testimony, regarding the West Virginia University, and that is that I referred there to a different company from the one now serving us; the one now, as you will note from the memorandum I have filed, is the West Virginia Utilities Company. They have changed——

Q. What was the name of it formerly?

A. West Virginia Traction & Electric Company.

2502 Q. I will ask you to be a little more specific, if you can, as to your experience with reference to shortage of gas at the university before you changed from gas to coal as a fuel.

A. It is my recollection that we had very good service until we were ordered off the lines.

Q. That was prior to 1917?

A. Prior to 1917—but while they were serving us they gave us very good service.

Q. I wish you would be more specific as to the times when you have been short of gas at Keyser for the preparatory school there.

A. We were short of gas whenever there was a storm on; whenever we had extremely cold weather, we were short of gas; that might happen three or four times a week—and half a month be short; whenever the cold weather—unusually cold weather—we are short of gas; when we need it the most, in other words.

Q. When you wanted it, you did not have it. The next institution you named was your West Virginia Trades School at Montgomery; I will ask you to state in what county this school is located.

A. Fayette County.

Q. About how far from the City of Charleston?

A. About 20 miles, but I am not sure of that.

Q. Are you using natural gas there, and, if so, for what purposes?

A. We use natural gas there for heating, cooking, heat-
2503 ing hot water, for domestic science school, and part of the time we use it for lights.

Q. What has been your experience with natural gas at that point?

A. Until about a year ago we had a very good gas supply; since that the supply has been—about a year ago it was—very poor, and it is a little better now. Whenever we had cold, stormy weather, we were without gas, and it was sometimes necessary to dismiss the school; the school was dismissed a number of times there—and at times there wouldn't be enough gas there to cook with.

Q. What, if anything, has the State been required to do, or does it contemplate doing, in respect to providing itself with fuel for your institution at Montgomery?

A. We will change the heating plant there to coal as soon as the Legislature (which will meet in this month) appropriates sufficient money to make the change.

Q. Your Board is recommending that to the Legislature and making provision in the budget for that purpose?

A. We are making recommendation to take care at that.

Q. What will it cost the State to make the change from gas as a fuel to coal as a fuel for the school at Montgomery?

A. I would estimate that it would cost about $4,000.00.

Q. Will the change from gas to coal mean an increased cost to the State for operating its heating plant there?

A. It will mean the employment of an additional man; $150.00 a month.

2504 Q. The next institution you have named is the Marshall College, in Huntington. In what country is Marshall College located?

A. City of Huntington, and Cabell County.

Q. What is the Marshall College?

A. Marshall College is a school for the education of teachers; primarily for the education of teachers.

Q. What is your attendance there?

A. About 500.

Q. What fuel do you use, and have you been using at Marshall College?

A. We have used gas there as the fuel since 1909, to my personal knowledge, and still use it as fuel; also for cooking, and for heating water, and for domestic science class, and for scientific apparatus, in work of that kind in connection with the science hall.

Q. Have you dormitories there?

A. Cooking—yes, we have dormitories; also do the cooking there for the boys, in the "cafeteria" style.

Q. How many buildings have you in connection with that?
A. Have three buildings—one a very large one.
Q. Have the buildings at Marshall College been equipped for the purpose of using gas?
A. Yes, gas equipment throughout.
Q. You have no equipment there for the use of coal.
A. Have not.

Q. What has been your experience in respect to the supply
2505 of gas at Marshall College?

A. The supply of gas there has been very good, indeed.
Q. Would it mean any increased cost to you if you were required to make a change at Marshall College from gas as a fuel to coal as a fuel, or something else as a fuel? If so, in what way?
A. It would cost us $50,000.00 in equipment, and $500.00 or $600.00 a month for additional labor.
Q. The next institution named by you is the Fairmont Normal School at Fairmont. Will you state the county in which this institution is located?
A. Marion County.
Q. What do you use, or what have you been using, at the Fairmont Normal School, for fuel?
A. Fairmont Normal School is equipped for the use of gas: gas heating plant, gas cooking plant, gas for heating water.
Q. What is this institution?
A. It is a training school for teachers; has about 200 students.
Q. How many buildings do you have there?
A. Two buildings.
Q. Are both of them equipped at present for the use of gas for heating, and otherwise?
A. Both of the buildings are equipped with gas for heating and otherwise, and have no other heating equipment.

Q. If you were compelled to change from gas as a fuel
2506 to coal as a fuel, or some other fuel, at Fairmont, would it mean any additional cost to the State, and if so, how much?

A. It would mean, at least, an additional cost of $30,000.00.
Q. When you answer these questions, do you include lighting, or just merely that for heating purposes?
A. I am thinking largely of the heating plant; main heating plant, and the—providing for storage of coal, and for storage of ashes and for cooking.
Q. Are you including illuminating?
A. None of these plants are now using gas for illuminating purposes, I have mentioned up to this time.
Q. You are using electricity for light?
A. Yes.
Q. The next institution you have named is West Liberty Normal School. Where is that located?
A. That is in Ohio County, 12 miles from Wheeling.
Q. How long have you been using natural gas there for heating, lighting and other purposes?

A. We have been using natural gas there for—in 1909 when I first visited that institution.

Q. You do not know how much longer they have been using it.

A. No, sir.

Q. All the time since 1909?

A. All the time since 1909.

Q. What are your buildings equipped there to use?

2507 —. We have two buildings there; they are equipped for the use of gas: for heating and cooking, and for domestic science work; we pump our water with gas.

Q. If you were required to change from gas to coal, or some other fuel, would it mean any expense to the State?

A. It would mean an expense there of $15,000.00.

Q. How are you situated at West Liberty in respect to facilities with which to obtain coal, wood or other fuel?

A. It would be necessary to haul all coal about five miles, by wagon or truck.

Q. The next institution you named is that of the Glenville Normal School, at Glenville. In what county is this institution?

A. Gilmer County.

Q. How long have you been using gas at Glenville Normal School, and for what purposes?

A. We have been using gas at the Glenville Normal School since I first visited the—Board; at least, I don't know how much longer—since I first visited Glenville, and that was in 1909. We have been using gas at Glenville Normal School since 1909, to my knowledge.

Q. For what purposes do you use gas at Glenville Normal School?

A. We have two buildings there. We use gas for heat in the main school building, and for domestic science work, and we use gas for heat, and for cooking in the dormitories: the dormitories for girls.

Q. Are your buildings there equipped for the use of gas?

2508 A. They are.

Q. If you were to change from gas to coal, or any other fuel, would it mean any expense to the State?

A. It would mean an expense of $10,000.00.

Q. What has been your experience in respect to gas at Glenville from the standpoint of the service?

A. The supply there has been very poor; during cold, and even during moderate weather, not enough—frequently not enough to heat the buildings, and many times not enough to do the cooking; and at times it has been necessary to dismiss the school there on account of the shortage of gas—for short periods.

Q. When have you experienced the necessity of dismissing the school on that account?

A. I think it was in 1918—I don't mean at the students' homes, but dismissed them from classes, because they were not comfortable—in 1918 and 1919.

Q. You said there were times when you did not have enough gas to cook with. When was that, and what did you do under the circumstances?

A. Well, we would go out in the yard and build a fire of wood and cook in the yard.

Q. When was that?

A. That was 19—I should say that was in 1919, it was necessary to do that.

2509 Q. The next institution named by you is the West Virginia Collegiate Institute. In what county is that located?

A. Kanawha County.

Q. How far from the City of Charleston?

A. It is about eight miles, I would say.

Q. What sort of an institution is this?

A. This is a preparatory school and college for the colored.

Q. Is it equipped for the use of gas?

A. It was equipped solely for the use of gas up until this last summer, when we changed the heating plant so we could use coal; installed a new heating plant.

Q. Why did you change from the use of gas to the use of coal?

A. The supply of gas was so irregular that we could not depend upon it.

Q. For what purposes did you use gas at the Collegiate Institute?

A. We used gas for heating, for pumping of water, for lights, for the mechanical school, the green-houses, for cooking at the dormitories, and heating water.

Q. Did the change from the use of gas as a fuel to the use of coal as a fuel involve any expense to the State?

A. We changed the plant, and it cost approximately $25,000.00—we are using gas as a fuel, but we are prepared to use coal.

Q. What has been your experience there?

2510 A. The supply of gas has been very irregular; at times we were not able to cook meals; when we were not able to cook the meals, we had gas for no other purposes.

Q. When did you have that experience?

A. That was, I think, 1917, 1918 and 1919; the gas supply later has been better, much better.

Q. The next institution named by you is the Weston State Hospital, at Weston. State the county in which this institution is located.

A. Lewis County.

Q. What is this institution, the Weston State Hospital?

A. The Weston State Hospital is a hospital for white and colored insane, male and female.

Q. What do you use, and what have you been using, for fuel at the Weston State Hospital?

A. When I became a member of the Board of Control in 1909 we had our own fuel from our own wells.

Q. Your own gas wells?

A. Our own gas wells on the Hospital farm. We had two wells. These wells supplied us with all the gas we needed; shortly after the pumping station was built our wells began to run down so we couldn't supply ourselves, and we drilled another well at the expense of $5,000.00; got a very good well, but it shortly began to run down,

and we began supplementing our supply from a carbon company that wasn't far from our farm. I don't recall the name of the car-
2511 bon company—and the supply continued to decrease until it was necessary to supplement our supply from the Keener's Oil & Gas Company—the carbon people couldn't furnish us with sufficient gas, and finally our own wells were entirely abandoned, and we now get the supply from the Keener's Oil & Gas Company, I believe. I would like to correct my testimony as to the second source of supply, which was the Weston Gas Company, as I recall it now, instead of the Keener's, and we are now buying from the Keener's Oil & Gas Company.

Q. The Keener's supplies the town of Weston locally with gas?

A. It does.

Q. Was the institution there at Weston (the State Hospital) built and equipped for the use of gas?

A. When I found it—the building of the Weston State Hospital, if you recall, was started, when this was the old State of Virginia. When I became a member of the Board in 1909 I found the institution equipped for gas. Of course, in the "old days" they had no gas. The supply of gas has never been adequate since we lost our own supply. Within the last few days it was necessary to shut down our laundry—shut down all of our activities there in order to have gas enough to run our ice plant. The reason we protected the ice plant first of our different activities, other than heating the building, is the quantity of meat stored would spoil on our hands. There have been times at this institution when it was necessary to
2512 shut down all activities and put the patients to bed, or the patients have been ordered to bed by the hospital physicians, in order to keep them warm; that was last year.

Q. You have just said that within the last few days you have been so short of gas that you had to close down there except to keep the building warm to run your refrigerating plant. We have had no cold weather within the last few days, have we?

A. No, sir, no unusually cold weather.

Q. This last experience of the shortage of your supply has not come, therefore, from any cold, stormy weather, or any moderately cold weather, has it?

A. We have had no unusually cold weather in that part of the State this year.

Q. The fact is, there has been a very open and moderate winter, and is now, and was at the time you experienced this recent shortage?

A. Yes.

Q. For what purposes do you use gas at the Weston State Hospital?

A. We had gas for heating our buildings, numbering about 20; we use gas for manufacturing, light, in making our own electricity; we use gas for water supply, pumping our water out of the west fork of the river to a reservoir in the hill in the rear of the State institution; we use gas for our bakery; we use gas for our laundry;
2513 we use it for cooking; in fact, all the activities of the institution—gas has been—except when it was necessary to supple-

ment it with wood or coal—the only fuel used, and then we furnish all our own utilities there, all run by gas.

Q. This shortage that you have just recently experienced has been experienced while you are being supplied by the Keener's Gas Company, the local supply, or distributing, company of the City of Weston?

A. Yes, sir.

Q. If you are required to change from gas as a fuel to coal or wood, or some other fuel, will the change mean any expense to the State of West Virginia?

A. To make the change of all of our activities there from gas to some other fuel will cost $200,000.00.

Q. Do you mean that, whether you have an adequate supply of gas or even an inadequate supply of gas, if you are forced to change from gas to coal it means an expense to the State of $200,000.00.

A. We might cripple along, as we are doing now: with part gas, and part coal and part wood, without any great additional expense, but to make an actual change from gas to coal for our various activities there—our various institutions—it would cost not less than $200,000.00. Once we have had gas in an institution, we have never given it up voluntarily, it being the cheapest and the easiest fuel to handle.

Q. And your equipment there for all of your activities you
2514 have named was put in with a view to the use of natural gas as a fuel.

A. Our equipment there is now arranged for natural gas as a fuel. There may be some old equipment there that has been changed from coal equipment to gas equipment. Of that I have no knowledge.

Q. The next institution named by you is the Spencer State Hospital, at Spencer. In what county is Spencer?

A. Roane County.

Q. What is the nature of this institution?

A. It is a hospital for white insane, male and female.

Q. What fuel do you use?

A. We use gas exclusively.

Q. For what purposes?

A. For all our institution utilities; for heat; for our water supply; our light supply; our laundry; for every utility in the institution, we use gas as a fuel; even use it in disposing of our sewage.

Q. Do you have any equipment there for the use of coal?

A. This institution at one time seems to have been equipped for coal, but not in my time. There was one time a switch from the railroad to this plant; that switch was abandoned, and there are now houses built across the right of way; it would be impossible to build a switch there to handle coal economically; it would have to be hauled all the way there, from a quarter or half a mile, by truck, to
2515 get coal to the plant.

Q. Would it mean any expense to the State to change from gas as a fuel to coal?

A. In order to have our utilities served as well as they are now, it would mean an expense of $100,000.00.

Q. What has been your experience at Spencer in respect to your supply of gas?

A. We have had an excellent supply of gas at Spencer at all times.

Q. The next institution you named is the Huntington State Hospital, of Huntington. In what county is this located?

A. Cabell County.

Q. What is the nature of this institution?

A. This is a hospital for insane, for epilepties, idiots and imbeciles, male and female; idiotic children, white only.

Q. What do you use at this institution for fuel?

A. We use gas exclusively at this institution.

Q. For what purposes?

A. We use it for heating the buildings there, all the buildings there, for lighting them; we use it for running our laundry; our bakery; our central kitchen; our fire-fighting apparatus; in fact, all the activities—even to the moving pictures—run it with gas. We manufacture our electricity there. We have a moving-picture machine for the patients.

Q. This plant, then, is equipped throughout for the use of
2516 natural gas?

A. Yes.

Q. What is your location in respect to the railroads and railroad switches?

A. This institution—we have—has never used any other fuel than gas, and for that reason was located at a point where the State does not own land over which they could reach the power plant with coal, either by railroad, or wagon or truck. It would be necessary to buy very expensive land to reach the power plant.

Q. What would it cost the State to change from the use of gas as a fuel at this institution to coal, or some other fuel?

A. I would say, $100,000.00.

Q. The next institution you named is the Fairmont Hospital at Fairmont. This institution is also in the County of Marion.

A. This is in Marion County.

Q. In the City of Fairmont?

A. In the City of Fairmont.

Q. What is the nature of this institution?

A. This is an emergency hospital furnished by the State to care for those actually injured while in their regular employment.

Q. How is that institution equipped from a power and fuel standpoint?

A. Until, I think, two years we used gas there for heat-
2517 ing, lighting, and for water supply; we use gas as a fuel for producing electricity—for manufacturing our own electricity, and pumping our own water, and running our own laundry. Now the supply became so poor there about three years ago that it was necessary for us to abandon our electrical equipment and pumping equipment, to buy our electricity, and buy our water, and we use coal as a fuel, but we still use gas for cooking. We do not always have enough gas to cook with there. We have to supplement

that with wood. I want to say that, in that connection—it is a strange thing—on the east side of the river in Fairmont we have one institution and we have very poor gas supply; on the west side of the river—in the Fairmont Normal School—we have very good gas supply—in the town of Fairmont.

Q. Has the State been required to expend any monies in changing from the use of gas at the hospital at Fairmont to the use of coal?

A. We simply lost many conveniences we had, making it necessary to junk our electrically lighting plant, and our pumping plant, and also our ice-making and cold-storage plant we had there. Because we didn't have sufficient gas supply, we took it out and sold it or junked it. We have no ice-making plant; we buy our ice, and we buy our power for water, laundries, which was formerly run by gas.

Q. Does that mean a loss, or not, to the State?

A. Increased the cost——

2518 Q. And on account of your poor supply of gas at Fairmont Hospital, you are using gas now only for the purpose of cooking?

A. Yes; when we don't get quite enough for cooking, we have to supplement that with wood or coal.

Q. The next institution you named is the West Virginia Penitentiary, at Moundsville. In what country is this institution located?

A. Marshall County.

Q. What have you been using, or what do you use, at this institution for fuel?

A. In 1909 gas was used almost exclusively for fuel, and that fuel was used for many purposes, but either in the year 1909 or 1910, the company then furnishing—which, according to my recollection, was the Wheeling Natural Gas Company, with offices in Pittsburgh—declined to renew their contract they had with us at what our board thought was a fair rate. They started off with a 25 cent rate and ran down as low as 14 cents. At the same time we were buying gas for 5 cents, and we thought that rate was exorbitant, and we would not pay it, and they, in a friendly way, said, "We would rather you get off our line; we can make better use of our gas", and we got off their line, as much as we could. We couldn't take it, because coal was very cheap then. We made a five-year contract for coal at $1.00 a ton, and we got off the line with as much equipment as we could, but there was a good deal of equipment we

2519 could not leave the line with; that is to say, once we start to use gas we have not given it up at any institution, for the reason it is more economical than coal at $1.00 a ton—both as to the original cost and the labor cost and machinery cost.

Q. For what purposes do you use gas at this institution?

A. We use gas for all purposes there, except for the purposes of heating; we use coal for heating; we use gas for all other purposes there; that is to say, we use gas for furnishing power for all the contractors who employ the prisoners in the penitentiary—we sell them power; we use gas for our bakery; our laundry; our kitchen equipment; our lighting equipment.

Q. If you were required to change from gas as a fuel to coal, for the purposes you use gas at that institution would it mean any expense to the State?

A. It would mean an expense of at least $100,000.00. We have power for gas engines there, and we have equipment there that we couldn't—get coal to the engines, and would have to relocate them and make considerable change in our mechanical department.

Q. Are you making any preparations to get coal at the penitentiary for heating purposes?

A. We are sinking one shaft there on our own farm for supplying ourselves with coal.

—. ——.

A. Between 80 and 90 feet deep.

2520 Q. The next institution you named is the West Virginia Industrial School for Boys. In what county is this institution located?

A. In Taylor County.

Q. What is the nature of it?

A. It is a reform school for boys, white and colored.

Q. How long have you been using gas there?

A. I found they used gas at this institution in 1909, and we used gas for all purposes there until about three years ago, when the supply ran down, and we changed our heating plant to coal.

Q. To be a little more specific, why did you change your heating plant from gas to coal?

A. Because of the inadequate supply. We use gas for cooking, and for bakery, and some of the other little activities about the institution.

Q. The next institution you named is the West Virginia Industrial Home for Girls. In what county is this institution?

A. Harrison County.

Q. How far from Clarksburg?

A. I should say about 12 or 14 miles from Clarksburg.

Q. What is the nature of this institution?

A. It is a reform school for wayward girls.

Q. How long have you used gas at that institution?

2521 A. This institution is equipped solely for the use of gas, used for heating, lights, laundry work, cooking, domestic science work, water supply, pumping water.

Q. The fact is, this institution is located just a short distance from the town or City of Salem, is it not?

A. Yes, sir.

Q. Are you using gas for all purposes at the institution now?

A. We are using gas for all purposes, and we are preparing, however, to change to coal.

Q. Why are you preparing to change from gas to coal at this institution?

A. If you will permit me—we formerly purchased gas from the Salem Gas Company, and that company gave us a very poor supply of gas; it was necessary there—it was frequently—at time- there

there would not be enough there to light the gas, and the girls had to be put to bed there—to keep warm—and one of the big gas companies' lines passed through our State farm, and we were allowed to tap that line, and the supply has been very good since that time; but just this fall one of the managers of this company came along and asked us to get off the line—change to coal for heating—and we are prepared to do that—as soon as we have the money to do it—as soon as the Legislature makes the requisite appropriation.

Q. What company is that?

2522 A. That is the company serving us now—the Pittsburgh & West Virginia Gas Company.

Q. And that is the company which gave you notice?

A. The man, representing himself to be manager of that company, came along and asked us to get off the line.

Q. And pursuant to that request or notice you got off——

A. Immediately——

Q. You are prepared to put in the coal——

A. (Continuing:) We called up a plumbing company at Clarksburg, and asked them if they could make the change at once, and we found that the plumber, after looking over the plant—it would be very dangerous to make the change—the chimneys decayed—not open—and we might burn our buildings down if we changed at that time—and that we would, therefore, have to rebuild the chimneys, and re-cement them, so they would stand heavy firing of coal.

Q. When was it that you were requested by the company, whose line goes through your farm, to discontinue the use of gas?

A. I should say it was about eight weeks ago; I don't recall exactly; we were called over the long distance phone in regard to it; the notice was given at the institution.

Q. You mean the written notice?

A. No; verbal notice.

Q. Verbal notice? I want to find out specifically about that. Were you yourself called to the telephone?

2523 A. The Superintendent called me, as I recall it—that I talked to her about it, over the long distance 'phone—not the manager; I got it second-handed. I recollect now she called me, because I instructed the plumbing company to go over and see if they could make the change.

Q. Will that mean any expense to the State—to change from the use of gas at the Salem institution to the use of coal, or some other fuel?

A. If we would have to change entirely it would cost us $50,000.00. We have a wonderful pumping plant there; we have our yard lighting plant; all our cooking arrangements; all our laundry arrangements, and have all our equipment there for gas; they only asked us to change the heat—if we were required to change our heating plant, it will be necessary, as the report shows, to rebuild the chimneys, and also to install heavier boilers—the boilers are too small; it will mean several thousand dollars change——

Q. The next institution you named is the State Tuberculosis Sanitarium at Terra Alta——

A. This institution is located two miles over at a little station called "Hope Mount," in Preston.

Q. And you are served there by the Northern Natural Gas Company?

A. We are served there by the Northern Natural Gas Company.

Q. What is the nature of this institution?

A. This institution is a sanitarium for the treatment of
2524 those afflicted with tuberculosis, who are residents of West Virginia, white.

Q. When was it built?

A. It was started in February, 1913—admitted the first patient February, 1913.

Q. Have you used gas there for any purposes?

A. One of the reasons for locating it on that particular ground was that a gas line ran through the farm; it is the only location in the State where we could get the altitude and have natural gas; it was considered by the two committees who had charge of the locating of this institution.

Q. This institution, then, was built and equipped for the use of natural gas?

A. Only.

Q. And for no other fuel?

A. For no other fuel.

Q. What has been your experience at that institution in respect to the supply?

A. The supply began to diminish about three years ago, and we have about 13 buildings there; the first winter the gas went off, I would say—three years ago, and caused a lot of our plumbing to freeze up; the second winter the gas supply was poor—and there would be a week at least where I would not be able to have any hot water. We had no heating plants; we depended entirely at this institution on gas for heating—with gas stoves, and heating
2525 with gas lines, and what pumping of water we did was with a gas engine—and the cooking—all the cooking, and the baking—and about two years ago the gas supply became so poor—in stormy weather, in very cold weather—and that is a very cold climate at times—we would be almost without gas, almost without lights—would have to use candles or lanterns; in the last year the gas went off on one Sunday, on a cold day—it went off entirely; the patients would actually have frozen to death if it had not been for the fact that the Superintendent got out with his employes and erected stoves and built fires—and put the pipes right out through the windows with no chimneys for—installed coal stoves on Sunday—I think that was in January of last year.

Q. January of 1920?

A. Yes—as soon as the weather would permit—we have nine heating plants there now for coal; we use gas whenever we have it—we have not abandoned gas; we use it for heating; we have nine heating plants now for coal and we have—we have put in an electric light plant—we still depend on gas for cooking entirely; of course—our equipment would have to be changed entirely—we would have

to erect the power plant to furnish hot water if we lose the gas entirely; have more trouble there with gas than at a y other point in the State—the weather is colder and the supply is poorer.

Q. Do you know whether the gas company serving this tuberculosis sanitarium at Terra Alta also serves the community of Terra Alta?

2526 A. The community at Terra Alta and Oakland, Maryland.

Q. Do you know the nature of the service given to the community at Terra Alta?

A. The service is poor in both of these communities, according to what little knowledge I have in this matter. This is the same company that is serving Cumberland, Maryland.

Q. The gas goes out of West Virginia over into Maryland, however, and them comes back into West Virginia?

A. No, this line is a branch off from the West Virginia line, which is serving Oakland and Terra Alta; the main line runs down from Keyser and then to Cumberland—branch off the main line that runs down over the mountain from Mineral and on to Oakland. I understand that, now, under our maximum charge we pay now 82 cents a thousand for gas at this institution; that is the maximum. You know the amount increases according to the amount you use—I have not seen the bill; the Superintendent told me that was under the new rate.

Q. The more you use the more you pay?

A. The more we use the more we pay.

Q. The last institution named by you is the West Virginia Children's Home, at Elkins. In what county is this institution located?

A. In Randolph County.

Q. City of Elkins?

2527 A. City of Elkins.

Q. What is the nature of this institution?

A. This is the home for white orphans; white orphan children.

Q. For what purposes do you use gas in this institution?

A. For heat and for laundry, and cooking and baking.

Q. What has been your experience at that institution in respect to the supply?

A. The supply has been very poor at times, and this winter we attempted to change—became so poor this winter that we attempted to change from gas to coal—and did so in a make-shift sort of way—without having money to pay for the work. We have not made the change, but we are using some coal there, a thing we have never done before, in order to supplement the supply; we will change there just as soon as we can have the Legislature appropriate the money necessary to make the change.

Q. To make the change requires the expenditure of some money by the State?

A. Yes, about $2,000.00.

Q. As a member of the State Board of Control, do you visit all

of the State institutions, and particularly including the 17 you have been interrogated about?

A. We visit the institutions frequently; we are in full charge of these institutions. As I stated in the beginning, we have full power to manage, govern and control them.

2528 Q. Do you visit them personally?

A. I visit them personally. I have just made a visit to all of the institutions in the State except two.

Q. You are personally acquainted, then, with the conditions at all of the State institutions?

A. I am entirely familiar with the grounds and the buildings of all of these institutions.

Q. And have you informed yourself as to the requirements which will fall upon the State with reference to the additional cost thereof if you are required to change from gas as a fuel to coal?

A. I am in entire charge, direct the repairs and improvements which would cover this particular subject.

Q. There are three members of your Board?

A. There are three members of the Board.

Q. And you sort of divide this work up among yourselves, do you, and particular charge of the buildings and equipment, which would include the heat and light, belongs to your particular work as a member of that Board?

A. Yes, part of my work is the building of the buildings; repairs and improvements, and anything having to do with buildings; all land—anything that would become attached to the buildings or real estate is my personal work.

Cross-examination.

(By Mr. Weil:)

Q. Mr. Lakin, the West Virginia Utilities Company that supplies the West Virginia University at Morgantown is a local com-

2529 pany, is it not?

A. It is, as I understand it.

Q. And the Montgomery Gas Company, at Montgomery, that supplies the West Virginia Trades School is also a local company?

A. It is.

Q. The Huntington Development & Gas Company, of Huntington, W. Va., that supplies Marshall College at Huntington, W. Va. is also a local company?

A. It was a company of considerable size, and was afterwards taken and now owned, as I understand it, by the United Fuel Company.

Q. You are not mistaken about that?

A. That is just as I understand it; that it has been bought by the United Fuel Gas Company; it is far from being a local company, however.

Q. Does it take any gas out of the State—the Huntington Development & Gas Company?

A. Its gas is taken out of the State—I imagine it is.
Q. Have you information upon that subject?
A. I have not.
Q. You have no information upon that subject?
A. I have no information upon that subject.
Q. The Monongahela Valley Traction Company, at Fairmont, West Virginia, that supplies the Fairmont Normal School
2530 is a local company, is it not?
A. It is.
Q. The Glenville Natural Gas Company that supplies the Glenville Normal School at Glenville, West Virgina, is a local company?
A. It is.
Q. And the Charleston-Dunbar Natural Gas Company that supplies the West Virginia Collegiate Institute is a local company?
A. It is.
Q. The Keener's Oil & Gas Company, of Weston, that supplies the Weston State Hospital is a local company?
A. Yes, sir.
Q. The Monongahela Valley Traction Company, at Fairmont, that supplies Fairmont Hospital No. 3 at Fairmont is a local company?
A. It is.
Q. The Comet Oil & Gas Company, of Wheeling West Virginia, that supplies the West Virginia Industrial School for Boys at Grafton is a local company?
A. It is.
Q. The West Virginia Gas Company that supplies the West Virginia Children's Home at Elkins, West Virginia, is also a local company, is it not?
A. It would seem that that company has many local companies; they change their name in every town—it would seem that
2531 way from our dealings with them; they are called one name at Elkins; another name at Keyser and another name at Terra Alta.
Q. Well, do you know whether or not they are separate and distinct local companies, owned by, perhaps, some general company?
A. I do not.
Q. Then you could not state as to that?
A. Except that one of my friends is a director of one of them, and he reports to Buffalo, and I imagine from that his company—the branch at Oakland, Maryland, is part of the parent company. That is the home of this company, isn't it.
Q. Then, there might be a holding company, for example, that would own the West Virginia Gas Company, or other companies of like nature?
A. I have no knowledge——
Q. These companies we have described as local companies—of course, you know what they are. Now the service that was given by the West Virginia & Maryland Gas Company—that is not a local company, as I understand.
A. I don't know whether it is or not.

Q. You do not know whether it is or not. That is the one that serves the Preparatory Branch of the West Virginia University, as I remember it?

A. Yes, sir.

2532 Q. And how has the service been there?

A. Very poor service.

Q. Do you know whether or not that is a local company or not?

A. I don't know; its name would indicate it was serving Maryland. I know that line serves Maryland; I don't know whether we are buying from the owners of that line of from the local company serving——

Q. Now, the service at West Liberty Normal School—that school is served by the Manufacturers Light & Gas Company, Wellsburg, West Virginia—you mean by that the Manufacturers Light & Heat Company, or do you mean this company that is here named?

A. I imagine that is a typographical error; that is the Manufacturers Light & Heat Company.

Q. Well, that Manufacturers Light & Heat Company is an interstate company; it buys in other states as well. What is the service at the West Liberty Normal School?

A. The service is very good there.

Q. Take the service at the Spencer State Hospital, Spencer, West Virginia. You formerly obtained the gas for that from the United Fuel Gas Company, did you not?

A. We did.

Q. What was the character of the service from the United Fuel Gas Company?

A. The service was excellent.

Q. And that was for how many years?

2533 A. I made as President of the Board, I think, two contracts, with them covering a period of several years; anyhow from 1909 up to the time the new contract was made by Cabot.

Q. And when was that made?

A. I think that was made about a year ago, as I recollect, possibly just about a year ago.

Q. About a year ago or a little more, perhaps?

A. Yes.

Q. And is Cabot a local operator?

A. I am not familiar with the operation of it; don't know.

Q. Well, how has the service been under him?

A. Excellent, under him.

Q. All the gas you require?

A. All the gas we require.

Q. The service at the Huntington State Hospital—you obtain that from the United Fuel Gas Company—how is the service there?

A. Excellent service.

Q. And the service at the West Virginia penitentiary at Moundsville—you obtain that from the Manufacturers Light & Heat Company—how is the service there?

A. Very good service there, except that for what activities we have we have not had all the service there we wanted—but we had a good supply for such service as we could get at——

2534 Q. Was not — the reason why you did not take the other service on account of the price?

A. Well, it was largely on account of the indifference of the parties who were furnishing it—they told us they would be glad for us to get off the line, and in a *peak* we got off the line; we thought if they were as independent as that——

Q. And you got off the line with your heating apparatus, as I understand?

A. Yes, as much as we could; we got off all we could.

Q. And the notice that you received, as I understood you, from the Pittsburgh & West Virginia Gas Company at the West Virginia Industrial Home for Girls at Industrial was that you should take the heating boilers off, I believe?

A. We have four heating boilers on those lines.

Q. They wanted you to take that off and offered to continue to supply you for the other activities?

A. Yes, just asked that; we asked that——

Q. The only thing they asked you to take off was your heating plant?

A. Yes.

Q. And the service there from that company—how has that service been?

A. The service from the new company—the main line—has been very good.

Q. Then, as a matter of fact, the service you have obtained from all of these companies that are engaged in shipping gas out-
2535 side the State has been good, except that you describe with reference to the Northern Natural Gas Company?

A. We felt that we had never been able to make contracts with the parent companies; that—all the time—it required all the time to buy our gas at retail instead of from the parent company, and whenever we got a line on a parent company where we were sure of a good gas supply, we were very careful not to do anything that would cause them to shut us off their line.

Q. Well, now then, the Manufacturers Light & Heat Company, the United Fuel Gas Company, G. L. Cabot, Pittsburgh & West Virginia Gas Company were all "parent", as you call them, or original companies. That is a fact, is it not?

A. So far, as I know, it is.

Q. And from all of those companies you have obtained good service, as you have already stated.

A. We obtained good service at the institutions I have named; I have gone into detail as to that, and, of course, I would not want to say we have obtained good service—in blanket form, that way—without specifying the institutions.

Q. Well, you have given us the details as to most of those institutions. Now, where was it you said you had your own wells, in the first instance?

A. At Weston, on the State hospital farm.

Q. That is the Western State Hospital.

A. Weston State Hospital, Weston, W. Va.

Q. Is that one of your large hospitals?

2536 A. That is next to the largest institution we have in the State; the University is the largest.

Q. Now at that institution you had, you say, I believe, wells in the first instance, on your own property, which supplied you with all the gas you needed, and as the gas supply diminished in those wells or the gas production from those wells diminished, you drilled one or more additional wells.

A. We drilled another well——

Q. And I suppose that increased your supply temporarily, or did it?

A. Well, it came in very good, but didn't stand up but for a month or two, when we were buying just as much gas as we had to start with.

Q. And then you quit drilling or operating for gas and bought your gas from the Keener's Oil & Gas Company?

A. Bought our gas first from the carbon company, and then from the Weston Gas Company, and then later from the Keener's Oil & Gas Company.

Q. Well, you bought it from some other company after that?

A. Yes, some other company—we consumed gas from 1910, when our gas cost was nothing, to 1920, when our gas cost us $32,000.00 a year.

Q. The price of gas since you began using gas for these various institutions has gone up steadily from that time to this has it not?

2537 A. It has.

Q. For example, you had a contract at one time at the Spencer State Hospital by which your gas cost you at the rate of 5 cents a thousand, and with a minimum charge which reduced that cost very much, did it not?

A. I was president of the State Board of Control at the time, and I made the contract at Spencer for all the gas we needed for that institution at $4,000.00 a year; it was based on 5 cents—cost—it would actually cost 4 cents—at Huntington State Hospital—we got a contract there for 5 years——

Q. At 5 cents?

A. At 5 cents.

Q. Flat?

A. 5 cents flat. About the same time made contract with the Dunbar—with that gas company—Charleston—Dunbar—at 6 cents, and these were for a period of five years, and they all expired, I should say, in—I think they all expired in—I should say in 1917.

Q. In other words, you made those contracts about 1912?

A. Yes.

Q. Now where—in all of these plants, as I understood your testimony in chief, you use gas for heating these respective institutions, having heating plants at all of them for that purpose. Now, how do you use the gas at these various places, if they are substantially the same? Do you use it under boilers?

A. We use it with the most approved burners we can
2538 get, under the boilers. Well, not all of them; some places we have direct gas engines.

Q. I am talking about the heat; I am not talking about the power.

A. Yes.

Q. And those are coal-burning boilers, are they not, but equipped with gas burners in the boilers?

A. They might be used for coal. We have never been able to use them, because they have not been bought large enough——

Q. But they were in furnaces designed originally and exclusively for the burning of natural gas?

A. Some of them, and some not.

Q. I mean the furnaces themselves.

A. Some of the furnaces, and some not.

Q. Where did you have any boiler installed that was?

A. At the State Tuberculosis Sanitarium, at Terra Alta, we had three boilers installed.

Q. I understand that, but were the boilers built exclusively——

A. I don't know what——

Q. But do you not know that there are manufactured boilers designed and built exclusively for the burning of natural gas therein, and in which nothing else could be burned?

2539 A. I never saw one, Mr. Weil.

Q. Now, for example, did you ever hear of the Bryant natural gas burner?

A. I did not.

Q. Have you been informed in connection with these institutions, by some of the representatives of some of these natural gas companies, that on account of the wasteful use of gas in boilers for the purpose of heat that, in the interest of conservation of the gas supply, they are endeavoring to discontinue such use just as fast as possible, everywhere, and especially in large plants?

A. I have not.

Q. Did you ever read the suggestions and recommendations of the National Committee on Natural Gas Conservation, issued through the Bureau of Mines of the United States, in which they make their recommendations for the conservation of the gas supply, and in which they especially comment upon and urge the abandonment of the use of natural gas in boilers for the heating of buildings?

A. I am not aware of such an organization; never have seen any of its publications; a part of my work is with the State Geologist, Dr. I. C. White, and I have frequently talked to him about the waste of gas, and I am entirely unfamiliar with the publications you refer to.

Q. Could you give us approximately the quantity of gas, for example, that you consumed at the Spencer State Hospital un-
2540 der the contract with the United Fuel Company—what was your total payment?

A. $4,000.00 a year, and the cost at that rate was four cents a thousand.

Q. Well, now, at that rate that would be 100,000,000 feet for the year. That is correct, is it not.

A. Yes.

Q. Now, how much less do you use in summer than in winter? You use half as much in summer as you use in winter?

A. Yes, fully; you see all of your activities go ahead except heating.

Q. Would you say that would be a fair estimate?

A. Yes, sir.

Q. And would you divide the year into six summer and six winter months, or seven summer and five winter months——

A. I would say just half and half.

Q. All right—six months each. Then, for the six months in summer you would use 33,000,000 feet, and in the winter 67,000,000 feet. That would be a fair estimate, would it not?

A. That would be a mere guess, and I don't think that ought to go into the record as coming from me; that is a mere guess; I don't know.

Q. Well, then, if the 100,000,000 feet per annum were divided equally per day for the 365 days you would have been burning in the neighborhood of 274,000 feet a day, would you not?

A. I could not tell; I should have said right at the
2541 start, I don't know the quantity consumed, although our records would show that, and I don't have them with me.

Q. Well, if those figures which I have given are correct, you would be burning over 10,000 feet an hour for the whole year?

A. Well, the gas company at the university notified us—when they asked us to get off the line, they notified us and also the Public Service Commission—we understood we were using 15,000 feet an hour, so I imagine that is about right. We are not using a bit more than we can help now.

Q. Do you know the fields from which these local companies obtain their gas?

A. I do not.

Q. Do you know anything as to their equipment for the handling——

A. I am not familiar with the gas business.

Q. At the Spencer State Hospital do you use hot water or steam for heat?

A. We use gas to make steam; we had heavy fans that drove the cold air—fresh air—over the steam pipes—and we had that sort of steam; I don't know what that steam is called.

Q. You use hot air?

A. We use hot air.

Q. Now, in the West Virginia Industrial Home for Girls—how do you heat that?

A. Steam heat.

2542 Q. In the Weston State Hospital—what is the character of that steam?

A. That is high-pressure steam, with fans so arranged as to change the air and heat the air.

Q. And at the West Liberty Normal School—what is your heating steam there?

A. I think one building is steam-heated, and the other one is hot-water; I am not sure about that.

Redirect examination.

(By Mr. Blue:)

Q. Without asking you to go into particulars, I will ask you this question—whether the rate at which you are paying for gas now is higher than that you paid at the time Mr. Weil was asking you about, in respect to Spencer State Hospital, the Huntington State Hospital, and others, when you were getting gas at four and 5 cents a thousand?

A. Very much higher.

Q. Is the State paying the same for gas now that the consumers pay in the State of West Virginia?

A. In all cases, we are paying the same rate for gas.

Q. In other words, you are paying the rate prescribed by the Public Service Commission—the tariff rate—as fixed by that Commission—as the rate for gas consumers?

A. Yes, sir.

The witness then withdrew.

2543 H. E. NEASE, a witness who has heretofore testified, was recalled for further examination, and testified as follows:

Direct examination.

(By Mr. Steptoe:)

Q. Mr. Nease, I believe you heretofore testified in this case, and with an understanding that we should recall you with reference to certain other small matters?

A. Yes, sir.

Q. At the conclusion of your former testimony did you have in course of preparation schedule, to be prepared at our request, showing the rates prescribed by the Public Service Commission of West Virginia and in force in this State in respect to the seven gas companies?

A. I did.

Q. Have you completed that statement now, and have you it with you?

A. I have.

Q. Does this statement show the presently existing and prescribed rates for the seven companies?

A. It does.

Q. I observe that the domestic rate for the Hope Natural Gas Company has five different amounts in cubic feet. Can you explain that variance?

A. That is accounted for by the company having different rates in different localities.

2544 Q. And I presume that the same is true where more than one rate appears with reference to any one of the seven companies listed?

A. Yes.

Q. Will you read that statement into the record?

Statement Showing Rates at Which Natural Gas is Furnished to Consumers Within West Virginia by the Hope Natural Gas Company, Pittsburgh and West Virginia Gas Company, United Fuel Gas Company, Reserve Gas Company, Carnegie Natural Gas Company, Columbia Gas and Electric Company, and Manufacturers Light and Heat Company as of December 15, 1920.

	Domestic rate.		Industrial rate.
Hope Natural Gas Company	40¢ per M cu. ft. less—		1st 500 M cu. ft. 29¢ less 1¢
	27¢ " " " " "	2¢	Over 500 M " " 24¢ " 1¢
	22¢ " " " " "	2¢	
	20¢ " " " " "	2¢	
	15¢ " " " " "	..	
Pittsburgh & West Virginia Gas Company	32¢ " " " " "	2¢	32¢ M cu. ft. less 2¢
	30¢ " " " " "	2¢	25¢ " " " " 2¢
United Fuel Gas Company	33¢ " " " " "	3¢	1st 150 cu. ft. 26, 22, 21 & 17 less 1¢
	28¢ " " " " "	3¢	Next 150 M " 19, 19, 20 & 15¢ " 1¢
	27½ " " " " "	2½¢	Over 300 M " 13, 18, 16, & 13¢ " 1¢
	25 " " " " "	2¢	
	17¢ " " " " "	2¢	
Reserve Gas Company	28¢ " " " " "	2¢	28¢ M cu. ft. less 2¢
			1st 150 M cu. ft. 27¢ less 1¢
			Next 150 M " " 21¢ " 1¢
			Over 300 M " " 18¢ " 1¢
Carnegie Natural Gas Company	27¢ " " " " "	2¢	1st 250 M cu. ft. 21¢ " 1¢
			Next 250 M " " 16¢ " 1¢
			Over 500 M " " 12¢ " 1¢
Columbia Gas & Electric Company	30¢ " " " " "	5¢	1st 50 M cu. ft. 23¢ less 5¢
	23¢ " " " " "	5¢	Over 50 M " " 15¢ " 5¢
Manufacturers Light & Heat Company	47¢ " " " " "	2¢	1st 1000 M " " 36 & 34 " 1¢
	45¢ " " " " "	3¢	Over 1000 M " " 19 & 19¢ " 1¢
	37¢ " " " " "	3¢	

2546 Q. In your former testimony you filed West Virginia Exhibits Nos. 7 and 8, being the two forms prescribed by the Commission for monthly reports by all the public utilities. I find that those blank forms do not indicate the various details which we desire to elicit, and I will ask if you have available a copy of the monthly report of any one of the seven companies, made at our request, showing the details as filled out and filed?

A. I have.

Q. I hand you now such a paper, and will ask you to state for what company that monthly report is, and for what month of what year?

A. This is the report of the Hope Natural Gas Company for the month of July, 1919.

Q. I believe it is the largest or next largest of the seven companies and the details there shown would be full, or a full sample, of the details represented by the various reports, would they not?

A. Yes, I would consider this a representative statement or report.

Q. Was that copy made by you, or under your supervision or direction?

A. It was made under my supervision.

Q. And is correct?

A. Yes.

Mr. Weil: If this report of the Hope Natural Gas Company is offered as a report of the Hope Natural Gas Company, we have
2547 no objection to the same being offered, in any way that counsel may desire; but if it is offered as a report typical of other companies, then we object to it, because there is no evidence of that fact; and, as a matter of fact, each company makes its report entirely differently. And, particularly, some of the companies differ from the Hope Company: not having measuring stations, etc., and not being able to make such report, by arrangement with the Public Service Commission, agree to make certain estimates, instead of a statement, yearly as appears from the Hope report; the Manufacturers Light & Heat Company, for example, being one such.

Q. Will you please now read this statement into the record?

A. —

"Form 56—P. S. C., W. Va.

Monthly Report of Gas Production of the Hope Natural Gas Company, Pittsburgh, Pa.

Month of July, 1919.

To the Public Service Commission of West Virginia:

1. Cities & towns:

Gas consumed.	Active industrial consumers.	Active domestic consumers.	Total of meters in use.	Number of thousands cu. ft. gas.	Total.
Parkersburg, W. Va.	35	6,630	7,544	254,296	
Williamstown, W. Va.	2	414	455	11,075	
Sistersville, W. Va.	3	931	1,065	14,163	
Friendly, W. Va.	0	85	102	396	
St. Marys, W. Va.	2	498	556	33,638	
Paden City, W. Va.	5	357	409	43,859	
Pine Grove, W. Va.	0	192	206	749	
Smithfield, W. Va.	0	173	187	762	
Manningtown, W. Va.	5	1,009	1,106	24,823	
Littleton, W. Va.	0	186	203	835	
Wileyville, W. Va.	0	0	0	0	
Fairview, W. Va.	0	217	247	826	
					385,422

Monthly Report of Gas Production of the Hope Natural Gas Company.—Continued.

Gas consumed.	Active industrial consumers.	Active domestic consumers.	Total of meters in use.	Number of thousands cu. ft. gas.	Total.
2. Field & Main Lines:					
Parkersburg Field	28	2,792	3,295	32,218	
Sistersville "	16	1,028	1,189	19,466	
Mannington "	10	1,201	1,369	17,289	
Drg. & Ppg. Wells, &c	509	....	....	397,142	
Free Gas	0	1,709	1,361	31,253	
					497,368

3. Gas Sold to Other Utilities:

	Location of measuring station.	Kind & size of meter.		
The East O. G. Co.	Clarington, W. Va.	3—6" Pitot T	.....	.....
"	" " "	0—5" " "	1,182,164	.....
"	Round Bottom, "	1—6½" Orifice	.....	.....
"	" "	0—5½" "	.....	.....
"	" "	2—3" "	158,583	1,340.747
The Peoples N. G. Co.	Glover Sta., "	1—5" Pitot T	.....	.....
"	" "	1—4" " "	48,313	.....
"	Brave, Sta., "	7—6½" Orifice	420,381	.....
"	Eldersville, Pa.	1—25 West	634	.....
" Petit	Littleton, W. Va.	1—15 "	12,287	.....
" Fordyce	" "	1—1½" Orifice	1,842	.....
" Staggers	" "	1—2½" "	12,302	495,759

Fayette Gas Co.	Wade Station, Pa.	1—4" Pitot T.	.....	.....
"	" "	1—3" " "	72,454	72,454
The River Gas Co.	Marietta, Ohio.	5856 Meters.	60,969	60,969
Export				1,969,929
Mfrs. Lt. & Ht. Co.	Bates Sta., W. Va.	2—5" Pitot T.	.....	.....
		1—4" " "	317,766	.....
"	Morgan Sta. "	1—5" " "	31,328	.....
"	Smith " "	1—5" " "	154,311	.....
"	Misc. Dr. & Ppg. &c.	.....	44	503,449
Lt. Fuel & Pr. Co.	Sutton, W. Va.	1—1" Orifice.	7,647	7,647
Clarksburg L. & H. Co.	Clarksburg, W. Va.	.....	.....	.....
"	Lynch Farm.	.....	.....	.....
"	Union Land Co.	.....	.....	.....
"	"	.....	.....	.....
"	Atkinson Farm.	1—2½" Orifice.	321	.....
"	Southern Farm.	1—2" "	3,040	3,361
"	N. Goff Farm.	.....	.....	.....
"	Rector Farm.	.....	.....	.....
"	W. L. Cole Farm.	.....	.....	.....
Reserve Gas Co.	Wilsonburg, W. Va.	.....	.....	.....
Keeners Oil, Nat. Gas & Fuel Co.	Weston, W. Va.	.....	.....	.....
Marion Oil Co.	Clay Dist., Monongalia County	1 #6 Equit.	848	848
Comet O. & G. Co.	Clarksburg, W. Va.	1—2" Orifice.	41,720	41,720
Daybrook O. & G. Co.	Fairview, "	.....	.....	.....
W. Va. H. & Lt. Co.	Pennsboro, "	.....	.....	.....
"	Cairo, "	1 #4 Equit.	7	7

Monthly Report of Gas Production of the Hope Natural Gas Company.—Continued.

	Location of measuring station.	Kind & size of meter.		
Carnegie N. G. Co.	Drg., Ppg. & Etc.	.....	286	286
2549				
Imperial O. & G. Products Co.	Drg., Ppg. & Etc.	.....	0	0
Jennings Oil Co.	" " "	.....	9	9
Delmer Oil Co.	" " "	.....	94	94
South Penn. Oil Co.	" " "	.....	16,305	16,305
Total gas sales (Items 1, 2, & 3)			3,426,445	3,426,445
4. Gas purchased from other utilities in State (Sta. Att.)			829,953	829,953
Gas purchased from other utilities not in State			499,144	499,144
Total gas purchased			1,329,097	
5. Produced by utility—number of wells used, 1332				2,097,348
Total production of utility & others not utilities, in State				2,596,492
Total gas produced and purchased in State				3,426,445
Total gas exported to other states			1,969,929	

2550 Q. Do I correctly understand you to say that the form of report—being the blank forms heretofore filed as West Virginia Exhibits Nos. 7 and 8 and in the same form followed in your present statement for the Hope Natural Gas Company—is prescribed for all of the public service corporations marketing natural gas in West Virginia?

A. Yes.

Q. And do each of those public service gas companies make their reports on that form?

A. They do.

Q. There would be, however, a variance with respect to the details shown in the statement, depending on the size of the company and the amount of its equipment and the nature thereof?

A. Necessarily so—there would be.

Q. While some might export and others would report no exports.

A. Yes; some might have field service and city service, and others might not have city service.

Q. Are you able to say whether the seven companies complied with the Public Service Commission law when it went into effect, in the year 1913, with respect to filing their schedules of rates?

A. They did.

Q. And have rates for each of the seven companies been prescribed by said commission for those companies to the present time?

2551 A. Companies were required, among others, these seven, to file rates that were in effect at the time the Public Service Act became effective, and those rates became the prescribed rates.

Q. And any changes that have been made with respect to the seven companies have been after proceedings before the Commission?

A. Yes.

Q. In the cross-examination of Mr. Sullivan at Pittsburgh there was shown to him a certain deed which I now hand you, and will ask you to produce for the inspection of the Commissioner and counsel—or rather an attested copy of deed—dated June 27, 1911, made between Wheeling Natural Gas Company, Tri-State Gas Company and The Manufacturers Light and Heat Company, all West Virginia corporations, parties of the first part; The Manufacturers Light and Heat Company, a Pennsylvania corporation, party of the second part; and Hope Natural Gas Company, a West Virginia corporation, party of the third part. Please take this attested copy of deed and give us an idea of its physical appearance, with respect to size.

A. 25 pages, about 12 by 18 inches in size, are required to hold the contents of this deed.

Q. Is the copy typewritten?

A. It is.

Q. How does the size of those pages compare with the ordi-

2552 nary typewritten page?

A. About three times as large.

Q. That would be substantially equivalent to 75 pages or more of typewritten matter on the ordinary size of typewriter paper?

A. It would.

Q. Have you examined that deed with reference to making a state-

ment as to the acreage of the various leases conveyed by it and the number of rights-of-way and the number of wells transferred, and pipe lines?

A. I have.

Q. Are you able to give a calculation of those items?

A. I am.

Q. In view of the bulk of the paper and its cumbrousness, I will now ask you to give us your calculation taken from that attested copy of deed of the acreage transferred by the parties of the first and second part to the party of the third part.

Mr. Weil: This question is objected to as incompetent, a deed being the only evidence of its contents. This method of proving its contents being wholly irregular and improper, in any proceeding, in any court.

The Commissioner: Note the objection, and let the witness answer.

Mr. Weil: We except to this ruling on the part of the Commissioner. I believe, under the general powers—this exception is taken, because, even under the restricted powers of the Commissioner,
2553 it is submitted that so gross a violation of every rule of the admissibility of evidence, before the same is permitted to be offered, it should, if necessary: if the Commissioner has any doubts as to his power in the premises, be submitted to the Court; and the Commissioner is respectfully requested, before the contents of the deed is put in evidence in this case to affect the conclusion of the Court on the pending issues by permitting a witness to give his summary, and his conclusions, and his estimates, or his construction, or his deductions, or his innuendoes or insinuations as to the contents of the paper—that the paper itself must first be introduced in evidence, so that the Court itself can determine whether or not the witness is truthful or untruthful, or is fair, is just, reasonable or decent in his testimony.

Mr. Steptoe: In reply to the exception, it is pointed out that the deed itself is not in issue, and its evidence is collateral to the issue, or is part of a collateral fact, or evidence that the deed itself is here in the form of a true and attested copy, inspection of which by counsel is invited; and the truth or untruth of the calculations which we seek to elicit from the witness may readily be verified or checked up; and it is submitted that to introduce a deed of this size into the record for the purpose of eliciting one or two collateral facts would be a burden upon the record not justified. What we propose to show by the witness with respect to the contents of this deed is simply this: The number of leases transferred; the several counties in which they are located, and the acreage; the number of gas-purchase contracts, and the acreage of the tracts from which the gas is purchased: the number of wells transferred; the number of rights of way; that is to say the number of points over which the rights-of-way extend,
2554 and the total mileage of pipe lines, as set forth in the deed.

Mr. Weil: This statement of counsel only emphasizes the objectionable character of the evidence offered. The very facts which he proposes to show have not the slightest bearing or relevancy

or materiality as to the issue that is or can be before the Court in the pending litigation. Whether or not in transactions between some of these companies conveyances have been made from one to the other of certain tracts of land, or wells or pipe lines, it has no relevancy or materiality as affecting any issue in this controversy; and if the record is to be cumbered up — any such irrelevant and immaterial matter, we do not propose that it shall be done with our consent and in violation of the rules of evidence. We, therefore, not only insist upon the objection made, but also respectfully request the Commissioner, if he has any doubts as to the propriety of this procedure, in view of our objection and this method of conducting the examination, that a certification of the question at issue be made to the Supreme Court and its order taken in the premises.

The Commissioner: I will dispose of the matter in this way: Objection was first made by counsel for the State of Pennsylvania to the witness, Nease, giving a tabulation of the contents of the indenture, as to acreage, leases conveyed, pipe line mileage leased, and of other statistical contents of the indenture, the witness having been directed to answer, with the objection being noted. Counsel for the State of Pennsylvania then insisted that the entire document could be placed upon the record, and now moves that the question upon motion be referred to the Court for ruling. It seems unnecessary to take
2555 that action, in view of the fact the full rights of the complainant can be preserved by having the indenture marked as an exhibit, not to be printed in the record, but to be preserved as an exhibit in the case in the same way that certain maps are being preserved—without preparation to have the same printed or copied into the record. Counsel for the complainant can then have access to the exhibit as part of the case to make any correction of the conclusions which the witness, Nease, is prepared to draw from the document in his condensed form. Will counsel offer the indenture to be marked?

Mr. Steptoe: Counsel for the State of West Virginia accept the suggestion of the Commissioner and now here offer in evidence the attested copy of deed above referred to, being a deed from the Wheeling Natural Gas Company, Tri-State Gas Company and The Manufacturers Light and Heat Company, West Virginia corporations, parties of the first part; The Manufacturers Light and Heat Company, a Pennsylvania corporation, party of the second part; and Hope Natural Gas Company, a West Virginia corporation, party of the third part, dated June 27, 1911, attested as a true copy by W. Guy Tetrick, Clerk of the County Court of Harrison County, West Virginia, and recorded in that office in Deed Book #202, page #375, marked for identification West Virginia Exhibit No. 33.

Mr. Weil: This is objected to as irrelevant and immaterial to any issue in this controversy.

The Commissioner: Note the objection.

Q. Now, Mr. Nease, to restate the question, let me ask you what is the total number of leases of gas land transferred by that deed to the Hope Natural Gas Company from the parties of the first
2556 and second parts?

Mr. Weil: That is objected to as incompetent, irrelevant and immaterial.

The Commissioner: Note the objection, and let the witness answer.

A. Approximately 892.

Q. What is the total acreage of those leases, according to your calculation?

Mr. Weil: That is objected to as incompetent, irrelevant and immaterial.

The Commissioner: Note the objection, and let the witness answer.

A. 65,205.15 acres.

Q. In what counties of West Virginia are those leases located?

Mr. Weil: Same objection.

The Commissioner: Note the objection, and let the witness answer.

A. Harrison, Lewis, Marion, Upshur, Braxton and Gilmer.

Q. How many gas-purchase contracts are sold and transferred by the parties of the first and second parts to the Hope Natural Gas Company?

Mr. Weil: Same objection.

The Commissioner: Note the objection, and let the witness answer.

A. 20.

Q. And what is the acreage of the lands from which the gas is purchased or produced?

Mr. Weil: Same objection.

2557 The Commissioner: Note the objection, and let the witness answer.

A. 9,839.75 acres.

Q. In the schedule of rights-of-way shown in that deed—how many rights-of-way are shown over how many farms?

Mr. Weil: Same objection.

The Commissioner: Note the objection, and let the witness answer.

A. Over 100.

Q. And what is the mileage of pipe lines conveyed by that deed?

Mr Weil: Same objection.

The Commissioner: Note the objection, and let the witness answer.

A. 177,867 feet.

Q. The question says, number of miles; I intended feet. Is your answer of 177,867 feet correct?

A. It is.

Q. Now, I hand you what purports to be an attested copy of deed, bearing date April 1, 1910, by and between Mountain State Gas Company, a West Virginia corporation, of the first part, and

Hope Natural Gas Company, a like corporation, of the second part, signed by Mountain State Gas Company, by John Tonkin, Vice-President, and recorded in the office of the Clerk of the County Court of Ritchie County, West Virginia, in Lease Book No. 30, pages 423 to 481, inclusive. Will you state the size of that deed with respect to the number of pages and size of the pages?

2558 A. This deed consists of 62 pages, in size about 10 by 16 inches.

Q. About how many pages of ordinary typewriting paper would it make?

A. About twice the number—from two to two and a half times.

The Commissioner: From two to two and a half times of what?

A. Of the pages shown in this deed.

Q. In a general way, what was the character of the property transferred by that deed, and in what form?

Mr. Weil: This is objected for the same reason as that given with reference to the other deed, and the same motion is made with reference thereto.

The Commissioner: The same disposition will be made of this matter as was made of the Wheeling Natural Gas, Tri-State Gas Company and The Manufacturers Light and Heat Compny indenture.

Mr. Steptoe: You need not answer the last question, then, Mr. Nease, and on behalf of the State of West Virginia, I now offer in evidence the deed just referred to, in the same manner and to the same extent in which the preceding deed from the Wheeling Natural Gas Company, et al., to the Hope Natural Gas Company was put in evidence, and to be marked for identification West Virginia Exhibit No. 34.

Mr. Weil: This is objected to as irrelevant and immaterial to any issue involved in this controversy.

The Commissioner: Note the objection.

2559 Q. Have you made a like calculation with reference to this deed so as to give us the total number of leases transferred, the acreage, the number of rights-of-way, franchises, etc., conveyed by the deed?

Mr. Weil: This whole line of examination, this and subsequent question, as to the contents of this deed, or any summaries, recapitulations, or interpretations thereof, is objected to as incompetent, irrelevant and immaterial, and in violation of the ordinary rules of evidence.

The Commissioner: Note the objection, and let the witness answer.

A. I have.

Q. Please state the number of leases of gas territory transferred under that deed to the Hope Natural Gas Company by the Mountain State Gas Company.

A. 180.

Q. State the acreage of those leases.

A. 23,610 acres.

Q. And in what counties are those leases located?

A. Ritchie, Gilmer, Pleasants, Wirt, Tyler, Wetzel and Calhoun Counties, West Virginia.

Q. How many rights-of-way for pipe lines are transferred; that is to say, rights-of-way over how many farms and in what counties?

A. Over a thousand.

Q. In round numbers, something over a thousand.

A. Yes, sir.

Q. In what counties?

2560 A. The counties of Ritchie, Gilmer, Pleasants, Wirt, Tyler, Wetzel, Calhoun, Lewis, Harrison, Doddridge and Wood—all West Virginia counties.

Q. How many wells are transferred by that deed, and where are those wells located?

A. 101 wells—in Pleasants, Ritchie, Tyler, Wetzel, Calhoun, Gilmer and Wirt Counties, West Virginia.

Q. Are there any franchises transferred under that deed?

A. There are.

Q. Can you find that section of the deed transferring any franchises, and will you read into the record the exact language of the deed relating to the franchises transferred?

Mr. Weil: The same objection is made to this as the questions heretofore.

The Commissioner: Note the objection, and let the witness answer.

Mr. Steptoe: In view of the objection made, I will withdraw the question.

Q. I will ask you how many franchises are transferred?

Mr. Weil: I understand all of this examination is taken on the same objection.

The Commissioner: Note the objection and let the witness answer.

A. There are eight such franchises.

Q. And by what municipalities or counties, would you say?

A. By the municipalities of Parkersburg, St. Marys, and Sistersville,—County Courts of Wood and Pleasants Counties.

2561 Q. And what is the date of the franchise in Parkersburg, and to whom granted?

A. The franchise in Parkersburg was dated the 14th day of March, 1892, to E. Strong.

Q. Now to whom was the franchise in St. Marys granted and when?

A. To S. T. Mallory, on the 28th day of September, 1893.

Q. And to whom was granted the franchise in the Town of Sistersville, and when?

A. The Mountain State Gas Company was granted the franchise in Sistersville on the 22nd day of August, 1892.

Q. And the other of the eight franchises were granted by county

courts, or were additional franchises in the three cities you have mentioned?

A. Yes.

An adjournment was here taken until Saturday, January 8, 1921, at 9:00 o'clock A. M.

2562 Supreme Court of the United States, October Term, 1919.

THE COMMONWEALTH OF PENNSYLVANIA, Complainant,

vs.

THE STATE OF WEST VIRGINIA.

THE STATE OF OHIO, Complainant,

vs.

THE STATE OF WEST VIRGINIA.

Before Levi Cooke, Esq., Commissioner.

Morning Session, Saturday, January 8, 1921.

Defendant's Testimony.

2563 Saturday Morning, January 8, 1921.

And, now, the hour of 9:00 a. m. having arrived, hearing was resumed, pursuant to adjournment.

Mr. Blue: Counsel for West Virginia desire to ask Mr. Nease some questions in connection with a line somewhat different from that about which he has just testified on being recalled, and respectfully suggest on the record to counsel for Ohio and Pennsylvania that if they desire to cross-examine Mr. Nease on the matters testified to by him on yesterday afternoon when recalled that they do so now and let us take up the line that we want to examine him further about after such cross-examination.

H. E. NEASE resumes the stand.

Cross-examination.

(By Mr. Weil:)

Q. Mr. Nease, you produced yesterday in response to questions by counsel for the State of West Virginia a return made by the Hope Natural Gas Company for the month of July, 1919, and I think, unwittingly you stated that those were typical of the returns made by other companies. Now it is the fact, is it not, that some of the companies, practically all of them, make their returns on the general form or in accordance with the general form prescribed by the Public

Service Commission, but that there are variations in each one of these returns as to the information given in those returns?

A. Well, there would be such variations in the returns made by the various companies as the conditions would warrant. Some com-
panies, of course, are more extensively engaged in the busi-
2564 ness for which report is made than others and would have use for the entire form, while others would use just such portions of the form as would be necessary.

Q. For example, the Manufacturers Light and Heat Company, you will recall*ed* perhaps, by arrangement with the Public Service Commission, made their returns by estimating certain quantities because the gas was not measured by metering stations at certain points, which would enable them to make their returns otherwise than by calculations and estimates.

A. I understand that such reports as the Manufacturers Light and Heat Company made on these forms or in connection with these forms was under those conditions and circumstances.

(Mr. Steptoe:)

Q. You mean by that that they estimated the gas?

A. Yes, I mean they estimated the quantities of gas which may have been produced within the state and the exportations and importations.

Q. Take for example the Hope Natural Gas Company of West Virginia, they produced no gas whatever and transported no gas whatever out of the State of West Virginia but were engaged in transporting gas into the State of West Virginia to supply their consumers in the Wheeling District and they made their returns, of course, accordingly?

A. They did.

Q. Have you any recollection of the quantity of gas that they brought into the State of West Virginia, say, for the calendar
2565 years 1918 and 1919?

A. I would be unable to answer that question right at this time. I have such information at my office and could answer the question by referring to my data there.

Q. Well, then, perhaps before we conclude the examination you may be able to get that for me and I can get that then?

A. I will do so if you desire.

Second direct examination.

(By Mr. Blue:)

Q. Mr. Nease, I desire to examine you along a line different from that on which you were examined by Mr. Steptoe on yesterday afternoon. Mr. James S. Lakin, witness for the State of West Virginia, on yesterday testified in respect to certain public institutions of West Virginia under supervision of the State Board of Control. He stated that the West Virginia University is located at Morgantown in the County of Monongalia. Can you state and will you state how many

of the companies known as the seven large companies have leaseholds and pipe lines in the County of Monongalia?

A. I will have to refer to the papers here. The Hope Natural Gas Company, Pittsburgh and West Virginia Gas Company, Manufacturers Light and Heat Company, and the Carnegie Natural Gas Company.

Q. Can you state the acreage held by these companies in the County of Monongalia, either by lease and otherwise; I mean particularly, held by them for oil and gas purposes.

2566 A. I have such information.

Q. Will you please state it?

A. You just want the total for all of such companies?

Q. For each company.

A. The Manufacturers Light and Heat Company has 5,951 acres, the Hope Natural Gas Company 41,285 acres, the Pittsburgh and West Virginia 8,662 acres, Carnegie 7,648 acres, making a total of 63,546 for the four companies.

Q. Do you know from your knowledge—can you state from your knowledge of the records in the Public Service Commission of West Virginia, whether these companies have pipe lines in the County of Monongalia through which they transport gas?

A. They do have such pipe lines in Monongalia County.

Q. Can you state the size of the lines, particularly the larger lines, of these companies, and the length of the lines in the County of Monongalia?

A. At this time I would not be able to give you the length of the lines, but I can give the various sizes.

Q. Why can you not give the length of the lines?

A. Well, I have not made an estimate, it would be a matter of computation, and I have not gathered it together.

Q. Give the size of the lines, particularly the larger lines.

2567 A. The Hope Natural Gas Company has lines running all the way from 6 inches to 16 inches; that is, it has 6″, 8″, 10″, 12″ and 16″ lines. The Carnegie has 6″, 8″, 10″ and 12″ lines. The Pittsburgh and West Virginia has 8″, 10″ and 12″ lines, and the Manufacturers Light and Heat Company has 4″, 6″ and 12″ lines.

Q. Do you know whether these companies or any of them have producing wells, I mean by that wells producing natural gas, in Monongalia County?

A. They do have gas wells in Monongalia County, or at least some of them do.

Q. Are you able to state the number of gas wells that the four companies or some of them have for the County of Monongalia?

A. I can so state.

Q. Will you do so, please?

A. Carnegie Gas Company has 56 gas wells in Monongalia County. The Pittsburgh and West Virginia Gas Company has 55 wells. The Hope Natural Gas Company has 138½ wells.

Q. How do you get that half well on there?

A. Well, one well is likely owned jointly with some one else.

Q. Of, yes.

A. The Manufacturers Light and Heat Company has 49 wells.

2568 Q. Making a total of how many wells, natural gas wells, of these companies named by you in the County of Monongalia?

A. 298½.

Q. What local utility or distributing company or companies furnish gas at the City of Morgantown?

A. Two of them, the Randall Gas Company and the West Virginia Utilities Company, until lately, the West Virginia Traction and Electric Company.

Q. Is that the same company?

A. The West Virginia Utilities Company and the West Virginia Traction and Electric Company is the same.

Q. Do you know whether the Randall Company or the West Virginia Traction and Electric Company have heretofore obtained or now obtain natural gas from any of these large companies named by you, for sale and distribution in the City of Morgantown?

A. The Randall Gas Company purchased gas from the Hope Company during the year 1918, not since that time.

Q. Had it a physical connection with one of the pipe lines of the Hope Natural Gas Company?

A. Yes, it purchased gas from the Hope Company as recently as 1918. The West Virginia Traction and Electric Company purchased gas from the Hope Company for the years leading up to 1918, as far back as 1915. The West Virginia Traction and Electric Company at this time has connection and purchases gas from the Carnegie Natural Gas Company.

2569 Q. Do you know whether any of these companies now purchase gas from the Hope Company for distribution in Morgantown?

A. I am advised that they do not.

Q. That physical connection that formerly existed no longer exists?

A. I cannot state as to the physical connection. They at least are purchasing no gas.

Q. You mean you do not know whether the physical connection still exists but that the local distributing companies at Morgantown are not getting gas for distribution there from the Hope Company?

A. I so stated, I think, in my answer.

Q. Mr. Lakin testified that the Preparatory Branch of the West Virginia University is located at Keyser, in Mineral County, West Virginia, and that the gas is delivered to that branch, to that institution, by the West Virginia and Maryland Gas Company. Who is or what is the West Virginia and Maryland Gas Company?

A. The West Virginia and Maryland Gas Company is a subsidiary of the Eastern Oil Company or group of companies known as the Eastern Oil Company group. It has a trunk line extending from the West Virginia gas field through and across the state line to Cumberland, Maryland.

Q. The Eastern Oil Company is not one of the companies that we generally refer to in this record as the seven large companies?

A. It is not.

2570 Q. What business is this Eastern Oil Company engaged in?

A. Well, its business is quite extensive. It is not even confined to this section of the country. It has holdings, I know, in Texas and other sections of the country. Locally, or in this section, it is engaged in the business of producing and marketing natural gas, and also in the business of manufacturing gasoline, and that of producing oil.

Q. Is the Northern Natural Gas Company one of the constituent companies of the Eastern Oil Company?

A. It is.

Q. Does the Eastern Oil Company have oil and gas leases in the State of West Virginia or hold property for oil and gas purposes in the State of West Virginia?

A. It does.

Q. Could you state the acreage of the leases of that company and the information in respect to the lines, length of them, size of them.

A. It would be necessary for me to refer to the reports of the West Virginia Central Gas Company, which is the company that has the production of the holding company, but I do not have the return before me, Mr. Blue.

Q. When you leave the witness stand, will you make up a statement showing the acreage of that company for oil and gas purposes in the state, the number of gas wells in the state of West Virginia and the several counties in which they are located?

2571 A. I will.

Q. And the size of its pipe lines in the State of West Virginia.

A. I will. As I understand, you want the pipe line- of all the constituent companies.

Q. I want the statement to show all of the wells and the pipe lines of all of the constituent companies of this Eastern Oil Company so far as it is operating as a gas company, either in its own name, Western Maryland Gas Company or any other of its constituent names, or any other names of its constituent companies; and if you can, also show the quantities of gas that it produced for the latest year available. To make it clear on the record, as to what I want, I will ask you for the name of the company in which the Eastern Oil Company does its gas business in the State of West Virginia, its producing, and in which it owns its wells and its pipe lines in this state.

A. Well, all of its constituent companies would necessarily be embraced. The West Virginia Central Gas Company has leases and production, or controls leases and production. None of the other constituent companies have leases or production, but they do have pipe lines and market gas.

Q. I asked that question so as to get clear into the record for the purpose of making up your statement. I want your statement to show the leases owned by the West Virginia Central Gas Company

and the number of wells, and its pipe line, and then the
2572 pipe line of the several different constituent companies which distribute this gas to various places.

A. Yes, I think I understand your statement.

Q. And you may state on the record now, if you will, the names of these several constituent companies delivering gas to the different localities and communities.

A. West Virginia Central Gas Company, West Virginia and Maryland Gas Company, Northern Natural Gas Company, Salem Natural Gas Company, West Union Gas Company. There is another small local company which I do not just recall the name of now; however, it has a detached operation and has no connection with the main system—Glenville Natural Gas Company.

Q. Did you not mention the Northern Natural Gas Company?

A. I did.

Q. Then your statement will cover all these constituent companies as well as the main parent companies?

A. Yes.

Q. You clearly understand now how I want you to make up the statement?

A. I do.

Q. Mr. Lakin also stated that Marshall College is situated at Huntington, in Cabell County, and served by the Huntington Development and Gas Company. What is or who is the Huntington Development and Gas Company?

2573 A. It is a local gas company serving the vicinity of Huntington.

Q. It is not a part of the United Fuel or any of the seven large companies?

A. It is not, it is an independent company, doing business for itself.

Q. Do you know whether it has been furnished with any gas by the United Fuel Gas Company? Do your records show?

A. Yes, it was supplied or furnished with gas by the United Fuel as late as 1916, not since.

Q. Mr. Lakin testified that the Fairmont Normal School is located at Fairmont, in Marion County, West Virginia. Can you state whether any of the seven large companies have leases, pipe lines, etc. in the County of Marion?

A. Four of such companies operate in Marion County.

Q. Will you give the names of the ones operating there?

A. Carnegie, Pittsburgh and West Virginia, Hope Natural Gas Company, and Manufacturers Light and Heat Company.

Q. What is the respective acreage held in lease or otherwise by the four companies for oil and gas purposes in the County of Marion?

A. The Carnegie Company has 8,638 acres, Pittsburgh and West Virginia 15,273 acres, Hope Natural Gas Company 47,639
2574 acres, Manufacturers Light and Heat Company 3,148 acres, making a total of 74,698 acres.

Q. Can you state the size of the mains, particularly the size of

the larger mains of these companies in the County of Marion and through which natural gas is transported by them?

A. The Hope Company has 10 and 16 inch lines traversing the county. The Manufacturers Light and Heat Company has 12 inch line near Fairmont. Pittsburgh and West Virginia Company has 10, 12 and 16 inch lines crossing the county, and the Carnegie a 12 inch line running through the central part of the county.

Q. Have these four companies any gas wells or wells producing natural gas in the County of Marion?

A. They do.

Q. Will you state the number of gas wells of these companies in that county?

A. The Manufacturers Light and Heat Company has 32 wells in Marion County, the Hope Natural Gas Company has 312 wells in the county, the Pittsburgh and West Virginia Gas Company has 135 and the Carnegie Natural Gas Company 105, making a total of 584.

Q. What is the name of the local distributing company in the City of Fairmont?

A. Monongahelia Valley Traction Company.

Q. Do you know whether that company is now being furnished or has been furnished natural gas by any of the large
2575 companies named by you as doing business in Marion County?

A. It has had and does have such connections. Up until 1917 it had such connection with the Hope Natural Gas Company. It now has a connection and acquires gas from the Carnegie Natural Gas Company.

Q. If I may lead you for a moment, has it now or has it had connection with the Pittsburgh and West Virginia Gas Company?

A. Oh, yes, I should have stated that; it now has a contract, I think, with the Pittsburgh and West Virginia Gas Company for the purchase of gas.

Q. And is receiving and has been receiving gas from the Pittsburgh and West Virginia Gas Company?

A. Yes.

A. Mr. Lakin further testified that the Glenville Normal School is located at Glenville in Gilmer County. Do any of the seven large companies operate in Gilmer County?

A. Yes, four of them.

Q. Give their names.

A. United Fuel Gas Company, Hope Natural Gas Company, Pittsburgh and West Virginia Gas Company, and the Carnegie Natural Gas Company.

Q. Will you state, please, the acreage held for gas purposes by these four companies, either by lease or otherwise, in the County of Gilmer, and the size of the main pipe lines of the companies in that county?

2576 A. The United Fuel Gas Company has 19 acres of leases, the Hope Natural Gas Company 95,490, the Pittsburgh and West Virginia 53,217, the Carnegie Natural Gas Company 12,793, making a total of 161,519 acres for the four companies.

Q. What are the sizes of the main lines of these companies in Gilmer County used in the transportation of gas?

A. The Hope Natural Gas Company has a 14 inch line running through the county, the United Fuel Company has a 20 inch line connecting it with the Hope Natural and the Pittsburgh and West Virginia Company systems. The Pittsburgh and West Virginia has a 12 inch line connecting it up with the United Fuel Gas Company sustem; the Pittsburgh and West Virginia Company also has 10 inch and 8 inch lines. The Carnegie Company has no lines—pipe lines.

Q. Have these companies, or any of them, producing natural gas wells in the County of Gilmer, and if so, how many?

A. I think I should refer back to my answer to Mr. Weil in connection with the Carnegie Natural Gas Company. I do not have before me the mileage of pipe lines or the size of the pipe lines operated by the Carnegie Natural Gas Company in Gilmer County, if it has any such lines. I am lead to believe that it has because it has both acreage and wells within the county.

2577 Q. Now you may state the number of wells of these companies in the County of Gilmer producing natural gas.

A. The Carnegie Natural Gas Company has 10 wells, the Pittsburgh and West Virginia Gas Company 27 wells, the Hope Natural Gas Company 107½ wells.

Q. How do you get the half?

A. One well is owned jointly with somebody else.

(Mr. Weil:)

Q. The United Fuel?

A. The United States Fuel has no gas wells in the county.

Q. Did you give the number of wells, the total number?

A. Of the three companies, being 144½.

Q. What is the name of the local distributing company supplying the town of Glenville?

A. Glenville Natural Gas Company.

Q. And that you say is a constituent of some other company?

A. It is owned by the Eastern Oil Company, by the Eastern Oil Company group.

Q. Do you know whether the Glenville Natural Gas Company has at this time or has had a physical connection or whether it is being supplied or has been supplied with natural gas by any of the larger companies?

A. It is now being supplied by the Pittsburgh and West Virginia Gas Company.

2578 Q. Mr. Lakin further testified that the West Virginia Collegiate Institute is located at Institute, in Kanawha County, West Virginia. Do any of the seven large companies operate in the County of Kanawha?

A. They do, the United Fuel Gas Company operates within Kanawha County.

Q. Can you state and will you state, if you can, the acreage held

by lease or otherwise by that company in the County of Kanawha for oil and gas purposes?

A. The United Fuel Gas Company controls 283,194 acres of gas territory in Kanawha County. The Manufacturers Heat and Light Company and the Hope Natural Gas Company, to a very limited extent, are also within Kanawha County, the Manufacturers Light and Heat Company controlling 275 acres, and the Hope Natural Gas Company one acre, making a total of 283,470.

Q. Does the United Fuel have—do these companies named by you have any gas wells, natural gas wells, in the County of Kanawha?

A. The United Fuel does.

Q. How many?

A. 174.

Q. Has it any large mains for the transportation of gas in the county; if so, give the size thereof.

A. Well, it has quite a net work of lines in the county; more than 400 miles of all sizes, running up to 20 inches.

2579 Q. Do you know whether the local distributing company there or the company that delivers gas to the West Virginia Collegiate Institute, the Charleston-Dunbar Natural Gas Company, has received or receives now, gas from the United Fuel Gas Company?

A. It has had a connection with the United Fuel. I am not advised as to whether it is now getting any gas from the United Fuel, but up until quite recently it has.

Q. Mr. Lakin testified that the Weston State Hospital is located at Weston in the County of Lewis. Do any of the large gas companies operate in the County of Lewis, and if so which ones?

A. The Carnegie Natural Gas Company, the Reserve Gas Company, the Pittsburgh and West Virginia Gas Company, and Hope Natural Gas Company, operate within Lewis County.

Q. Do they or any of them own, by lease or otherwise, territory for oil and gas purposes in the County of Lewis?

A. All the four named do.

Q. State the acreage held by them respectively.

A. The Carnegie Natural Gas Company controls 4,321 acres, the Reserve 33,206 acres, the Pittsburgh and West Virginia Gas Company 47,774, and the Hope 91,439, making a total for the four companies of 176,740 acres.

Q. Do the four companies just named by you have producing gas wells in the County of Lewis?

A. They do.

2580 Q. Will you state the number of wells owned by them respectively in that county?

A. The Hope Natural Gas Company has 444 wells within the county, the Pittsburgh and West Virginia Gas Company 240, the Reserve Gas Company 396, and the Carnegie Natural Gas Company 26, making a total of 1,106.

Q. What is the name of the local distributing company at the City of Weston?

A. Keeners Oil, Natural Gas & Fuel Company.

Q. Do you know whether that company has now or has had a physical connection with any of the four companies named by you and whether or not it is being furnished or has been furnished gas by any of the four larger companies, for sale and distribution to Weston?

A. It had a physical connection and was furnished gas by the Hope Company until May, 1919. Since that time it has not been furnished any gas by any of the seven companies.

Q. Mr. Lakin testified that the Spencer State Hospital is located at Spencer, Roane County. Do any of the seven large companies operate in that county?

A. They do. The United Fuel Gas Company operates in Roane County.

Q. Can you state the acreage held by it in Roane County for oil and gas purposes?

A. I can.

Q. State, please, the acreage so held.

2581 A. 146,604 acres. The Hope Natural Gas Company also controls 1,772 acres within the county, making a total of 148,376 acres held by the two companies.

Q. Does the United Fuel Gas Company or the Hope Natural Gas Company either have pipe lines for the transportation of gas in Roane County, and if so the size of the main lines?

A. The Hope Company has no such line. The United Fuel has 296 miles of lines traversing the county, of various sizes. I do not have the sizes before me.

Q. And you do not recall the size of the largest line?

A. I am reasonably sure they have a line as large as 20 inches, any way it is a very large line.

Q. I omitted to inquire of you when asking about Lewis County, whether any of the large companies there have pipe lines in or through that county for the transportation of natural gas.

A. They do. The Hope Company has lines from 6 to 16 inches, 6, 8, 12 and 16 inch lines, and the Reserve Company 8, 10, and 12 inch lines. The Pittsburgh and West Virginia Gas Company has 8, 10, 12 and 16 inch; and smaller lines are owned by all of the companies mentioned.

(Mr. Weil:)

Q. What about the Carnegie?

2582 A. The Carnegie does not seem—I am not advised as to the lines owned by the Carnegie Company is Lewis County, or at least, do not have the information right at hand.

Q. State the number of gas producing wells of the United Fuel Company, if it has any, in the County of Roane?

A. It has 354½.

Q. Has the Hope Company producing wells over there in that county?

A. It does not.

Q. Mr. Lakin testified that the West Virginia Penitentiary is

located at Moundsville in Marshall County. Do any of the seven large gas companies operate in Marshall County?

A. The Manufacturers Light and Heat Company does. The Pittsburgh and West Virginia Gas Company has a small acreage also in Marshall County, and the Hope Natural Gas Company operates within the county.

Q. Do these companies or any of them, own by lease, hold by lease or otherwise, acreage for oil and gas purposes in Marshall County? If so, how much?

A. The Manufacturers Light and Heat Company controls 68,455 acres, the Pittsburgh and West Virginia Gas Company controls 256 acres, the Hope Natural Gas Company 9,885 acres. I also notice that the Carnegie Natural Gas Company has 3,922 acres within the county.

Q. Do these companies, or any of them, have gas wells producing natural gas in the County of Marshall?

A. They do.

2583 Q. Can you state the number thereof?

A. The Carnegie Natural Gas Company has 51 wells, the Hope Natural Gas Company has 44 wells, the Pittsburgh and West Virginia Gas Company has none, and the Manufacturers Light and Heat has 192, making a total of 287.

Q. Do these companies or any of them have pipe lines in the County of Marshall for the transportation of natural gas? If so, the size of the lines?

A. The Carnegie Natural Gas Company has about 28 miles of lines in the county.

(Mr. Weil:)

Q. Will you give the size?

A. I am not able to give the size of the lines at this time. Pittsburgh and West Virginia Gas Company has no lines in Marshall County. The Hope Natural Gas Company has 93 miles of lines of various sizes. The Manufacturers Light and Heat Company has 223 miles of lines of various sizes. I am unable at this time to give the sizes of these various lines. The information is available and I can readily get it. I might state that I did have it compiled and it was burned, at the capitol fire.

Q. What do you mean when you say it was burned at the capitol fire?

A. Well, I had gathered together the various sizes of lines just as I have testified to in connection with the other companies, but two or three sheets of my papers were destroyed.

Q. Destroyed when?

2584 A. In the capitol fire.

Q. I am trying to get into the record what you mean by the capitol fire.

A. The fire that destroyed the capitol.

Q. When?

A. On Monday, January 3rd.

Q. 1921?
A. 1921.
Q. Mr. Lakin testified that the West Virginia Industrial School for Boys is located, he said, at Grafton, in Taylor County. Do any of these seven large companies operate in the County of Taylor?
A. Two of them, the Hope Natural Gas Company and the Pittsburgh and West Virginia Gas Company.
Q. Do these two companies have lines or hold territory for oil and gas purposes in the County of Taylor, by lease or otherwise?
A. They do.
Q. What is the acreage of each of them?
A. The Hope Natural Gas Company controls 14,260 acres, and the Pittsburgh and West Virginia Gas Company 9,376, making a total of 23,636 acres.
Q. Do these companies own producing gas wells in that county?
A. The Hope Company has 12 gas wells in Taylor County, and the Pittsburgh and West Virginia Gas Company has 40.
2585 Q. Have either of these, gas pipe lines in the County of Taylor for the transportation of natural gas?
A. They both have pipe lines in Taylor County.
Q. Of what size, if you can say?
A. Well, from 6 inches down.
Q. Does either of these companies sell gas at the City of Grafton?
A. No, neither of them sells directly to the public.
Q. Do you know whether either of them sells to the distributor of gas?
A. The Pittsburgh and West Virginia Gas Company sells gas to Grafton.
Q. Where does the Comet Oil and Gas Company sell gas, if you know?
A. It operates in Taylor County in the vicinity of Grafton and Pruntytown.
Q. The fact is the Industrial Farm is located at Pruntytown and the shipping point of it is at Grafton?
A. Well, the institution is at Pruntytown.
Q. Off of the railroad?
A. I am not advised as to the exact location of Pruntytown.
Q. Now you say the Comet Oil and Gas Company sells gas to Pruntytown and in the vicinity of Grafton?
A. Yes.
Q. Do you know whether it has now or has had a physical connection with either of the two large companies operating in Taylor County?
2586 A. Yes, it has had a connection with the Hope Natural Gas Company since the latter part of 1916.
Q. You mean the Comet Oil and Gas Company has had a connection—physical connection, with the Hope Natural Gas Company since 1916?
A. Yes.
Q. And was furnished by the Hope Natural Gas Company with natural gas?

A. Well, I am not advised as to whether—it has a physical connection, I am not advised as to which way the gas passes.

Q. Mr. Lakin testified that the West Virginia Industrial Home for Girls is located at Industrial, Harrison County. Do any of these seven large companies operate in the County of Harrison?

A. Yes, five of them do.

Q. Name them.

A. Carnegie Natural Gas Company, Reserve Gas Company, Pittsburgh and West Virginia Gas Company, Hope Natural Gas Company, and the Manufacturers Light and Heat Company.

Q. Do any of these five companies have territory for oil and gas purposes, by lease or otherwise, in the County of Harrison?

A. They do.

Q. State the acreage thereof for each of them respectively.

2587 A. The Carnegie Natural Gas Company controls 2,586 acres, the Reserve Gas Company 22,854 acres, Pittsburgh and West Virginia Gas Company 15,273 acres, the Hope Natural Gas Company 130,648 acres, and the Manufacturers Light and Heat Company 635 acres, making a total of 171,996 acres.

Q. Do these five large companies, or any of them, have producing gas wells in the County of Harrison?

A. Yes, they do.

Q. How many respectively?

A. The Hope Natural Gas Company has 1,059, the Pittsburgh and West Virginia Gas Company has 207, the Carnegie Natural Gas Company has 66, the Reserve Gas Company has 339, the Manufacturers Light and Heat Company 3, making a total of 1,674 for the five companies.

Q. Do these five companies, or any of them, have pipe lines in the County of Harrison for the transportation of gas; if so, which ones; and if you can, the size of the lines?

A. The Manufacturers Light and Heat Company have some 8 inch and 10 inch lines in the county. The Reserve Gas Company has 8, 10 and 12 inch lines and smaller lines. The Carnegie Natural Gas Company has a 12 inch line running through the central part of the county, but very few smaller lines. The Pittsburgh and West Virginia Gas Company has 8, 10 and 16 inch lines and smaller lines, and the Hope has 8, 10, 12, 16 inch lines and a great many smaller lines.

2588 Q. Mr. Lakin testified that the State Tuberculosis Sanitarium at Terra Alta, Preston County, was served by the Northern Natural Gas Company. Is the Northern Natural Gas Company one of the constituent companies of the Eastern Oil Company?

A. It *has*.

Q. He also testified that the West Virginia Children's Home at Elkins, Randolph County is served—is that the West Virginia Gas Company? Is that company one of the constituent companies of the Eastern Oil Company?

A. That is either the West Virginia Central Company or the West Virginia and Maryland Gas Company. Whichever it is, however,

it will be a constituent company of the Eastern Oil Company group.

Q. It is at this point that I will ask you to make part of your examination the statement in respect to the Eastern Oil Company group of gas companies, heading that in proper form and letting it go into the record as part of your direct examination.

2589 *Statement Showing Leases, Wells, and Pipe Lines Within West Virginia of "Eastern Oil Company Group" of Natural Gas Companies.*

	Leases (acres).	Gas wells (No.).	Pipe line (miles).
West Virginia Central Gas Company	34,067	161	260
West Virginia and Maryland Gas Company	None	None	220
Northern Natural Gas Company.	None	None	10
Totals	34,067	161	490

Leases are located within the counties of Lewis, Harrison, Upshur, Barbour and Gilmer.

Gas Wells are within the counties of Lewis, Harrison and Braxton.

The Eastern Oil Company also owns the following local gas companies operating within West Virginia. These companies are not connected with the company's general system:

	Leases (acres).	Gas wells (No.).	Pipe line (miles).
Salem Natural Gas Company	386	6	57 miles, 1 to 8¼ "
West Union Gas Company	367	3	20 miles, 1 to 6¼ "
Glenville Natural Gas Company.	200	1	17 miles, 1½ " to 5⅝ "

The Salem Natural Gas Company operates within the counties of Doddridge and Harrison; the West Union Gas Company within Doddridge County and the Glenville Natural Gas Company within Gilmer County.

2590 Second cross-examination:

(By Mr. Weil:)

Q. You obtained this information that you have given us, I presume, with reference to these operating companies in these respective counties from the data obtained from the reports made to the Public Service Commission by these various public utilities?

A. Either to the Public Service Commission or to the Board of Public Works.

Q. And all public utilities in the state were required to make such reports?

A. They are.

Q. But individual operators or those engaged in the oil and gas production that are not public utilities make no such reports?

A. They do not.

Q. Now can you give us with reference to the West Virginia Utilities Company that supplies the West Virginia University at Morgantown, West Virginia, the same character of information that was asked with reference to these other companies—the number of acres owned by it, the number of wells, and its pipe-lines and the sizes thereof?

A. I can.

Q. Have you that information available now?

A. No, sir, I do not have it in the court room.

Q. How long would it take to get it?

A. That would depend on the scope, Mr. Weil, most of it could be gotten very readily.

2591 Q. Now I will ask you to get that information as to the West Virginia Utilities Company, the number of acres of territory owned by it in the State of West Virginia, or outside, if it has any, the number of wells, and the size of its main pipe lines. The same with reference to the Montgomery Gas Company. The same with reference to the Huntington Development and Gas Company. The same with reference to the Monongahela Valley Traction Company. The same with reference to the Charleston-Dunbar Natural Gas Company. The same with reference to the Glenville Natural Gas Company. The same with reference to the Keeners Oil and Gas Company. The same with reference to G. L. Cabot. The same with reference to the Comet Oil and Gas Company. Could you by going to your office get that information for us, so that we could examine you as to these facts in, say, an hour, a half hour, or something like that?

A. I would not have any difficulty in getting the acreage and the wells, but I might have in getting the sizes of pipe line. That was taken from the Board of Public Works records. I had the 1920 records in my office and they were destroyed, all except for these seven companies, destroyed in the capitol fire. I would be able to get that information from the 1919 reports, which were in the custody of the Secretary of State, and I understand were saved intact. I do not know whether those records are available that would enable me to get the pipe line reports.

Q. Well, leaving the pipe lines out, for the moment?

2592 A. I could get the acreage and the wells.

Q. Will you do so, so that we can resume the cross-examination then upon that?

Witness complies with request.

Q. Mr. Nease, will you give us the number of acres held by the West Virginia Utilities Company of Morgantown, which supplies

the West Virginia University at Morgantown, West Virginia, and also the city of Morgantown?

A. The West Virginia Utilities Company controls 12,887 acres of leases, upon which are 70 gas wells.

Q. And where is this acreage located?

A. It is in Monongalia and Marion County, West Virginia. I might state, however, that the acreage figures given are for West Virginia. If this company has any acreage outside the state, and it does have, it would not be included in those figures.

Q. You say it does have?

A. I think it does have small acreage outside.

Q. Before we leave that, I believe you stated you could not give the mileage or size of its lines?

A. I cannot.

Q. The Montgomery Gas Company of Montgomery, West Virginia, that supplies the West Virginia Trade School at Montgomery, and also the town of Montgomery?

A. The Montgomery Gas Company controls 1,553 acres of leases and has 8 gas wells.

2593 Q. Where located?

A. Its gas wells are in Kanawha County.

Q. Where?

A. Kanawha County.

Q. Is its acreage there also?

A. It might possibly have a little acreage in Fayette County. It is practically all in Kanawha, however.

Q. Now the Huntington Development & Gas Company at Huntington, West Virginia, that supplies the Marshall College at Huntington and some other sections around there. How many acres?

A. 4,844 acres of leases and 162 wells.

Q. Are those its leases only? Does that include the land it owns in fee. Does it not have a large tract of land in fee in addition to those leases?

A. Yes, it does.

Q. Has it not about 100,000 acres or thereabouts?

A. It has a very large acreage.

Q. Is it not approximately 100,000 acres?

A. I would not be in a position to state, but it has a very large acreage in fee.

Q. You have been informed, have you not from time to time, that it has somewhere in the neighborhood of between 50,000 and 100,000 acres?

A. Yes, I should say it would be between 50,000 and 100,000 acres.

Q. And you know where that is situated, as well as its leases?

2594 A. Well, it is principally in Lincoln and Wayne counties.

Q. Now, you cannot give us in this, so as to save asking the question each time, or any of the other companies, you cannot give us the size of the pipe lines, for the reasons already explained?

A. Yes.

Q. Now for the Monongahela Valley Traction Company, which supplies the Fairmont Normal School at Fairmont, West Virginia, and also the town of Fairmont, give us the number of acres and wells owned by this company.

A. It has 19,667 acres of leases and 70 gas wells.

Q. Where are they located—in what counties?

A. In Marion, Harrison and Monongalia counties.

Q. Did I ask you for the Glenville Company, Glenville Natural Gas Company?

A. You did.

Q. That supplies the Glenville Normal School and, I suppose, the town of Glenville also?

A. Yes, it does.

Q. Give its acreage and number of wells.

A. It has 200 acres of leases and one well.

Q. In what county?

A. Gilmer County.

Q. Now the Charleston-Dunbar Natural Gas Company that supplies West Virginia College Institute at Institute, West Virginia. Does it also supply the town of Dunbar?

2595 A. Dunbar, St. Albans, and South Charleston, in part.

Q. Give us its acreage and number of wells.

A. It has 27,399 acres of leases and 65 gas wells.

Q. Where is that acreage located? What Counties?

A. Principally in Putnam and Kanawha Counties.

Q. And in what other?

A. I think that is all.

Q. Now the Keeners Oil and Gas Company at Weston, West Virginia, that supplies the Weston State Hospital at Weston?

A. It has no leases or wells.

Q. No leases or wells. Where does it get its gas?

A. Up until recently it has been buying from the Hope and the Clarksburg Light and Heat Company. Now it is getting its gas from a local producer near Weston; I don't recall just who it is; I think though the Columbian Carbon Black people.

Q. The G. L. Cabot that supplies the Spencer State Hospital at Spencer, West Virginia and the town of Spencer?

A. Cabot has holdings in various counties of the state, probably five or six counties. We have not any report, never been able to get any report on the lease held, but he has in all 52 wells, most of which are in Calhoun county.

Q. And he claims that he does not have to report because he is not a public utility, I believe?

2596 A. Yes, but he has always made some kind of reports, they are very incomplete, but he will finally comply by making some kind of a report.

Q. You have already given us the data with reference to the Monongahela Valley Traction Company at Fairmont, I believe, because it has supplied the Fairmont Normal School as well as the Fairmont Hospital. Now the Comet Oil and Gas Company, Wheeling, West Virginia, which supplies the West Virginia Industrial

School for Boys at Grafton, West Virginia. What is the acreage and number of wells and where located?

A. The Comet Gas Company has 4,885 acres of leases, and 18 gas wells in Taylor County. It operates in the vicinity of Grafton and Pruntytown, Taylor County.

Q. Several of these companies, if not all, buy gas from other producers in the same fields in which they operate or adjacent thereto, do they not?

A. Yes, substantially, that is the situation.

Q. I believe you stated the Keeners Oil and Gas Company buys all of it from local producers or those in its section or adjacent?

A. Yes.

Q. And pipes it to the hospital at Weston?

A. Yes.

Q. All of these companies that you have named have certain pipe lines and systems, of course?

A. They do.

2597 Q. Now you cannot give us the size, for the reason of the records not being available, as you explained before?

A. Yes.

Q. The records of the Public Service Commission of West Virginia would not contain the number of acres or the number of wells owned by those who are not public utilities and did not accordingly so report?

A. They would not.

Q. Is there any department of the state government that would have such reports, of which you have any information?

A. No, that would not be collected by any state department.

C. E. KREBS (recalled).

Direct examination.

(By Mr. Blue:)

Q. At folio 281, proceedings of yesterday, Friday morning, on cross examination, and in response to a question of Mr. Weil, you made a statement about which I desire to ask you a question. Mr. Weil was inquiring of you the quantity shown as imported into the states of Pennsylvania, Ohio, Indiana and Kentucky and the amounts as stated by you as exported from West Virginia into other states, and then asked you at folio 281 this question: "That shows that the gentleman making the estimate in the G-ological Survey is also wrong, does it not" and to which question you replied: "It does."

I desire to ask you whether you meant to state that the gen-
2598 *lt*-men making the estimate in the Geological Survey was or is wrong or whether that there appears to be a discrepancy in using the figures in the manner and for the purpose as used by Mr. Weil on his cross examination?

A. There appears to be a discrepancy which I am unable to har-

monize, but no doubt the man that has compiled these figures would be able to harmonize same.

Q. Then you did not mean when you made the statement, nor do not mean now, as saying, as a matter of fact, that the gentlemen who made the estimate in the Geological Survey was to your knowledge wrong in the figures used by him and in the estimates made by him?

A. I do not.

Cross-examination.

(Mr. Weil:)

Q. Have you not made your statement a little stronger than you intended, when you say that the gentleman who made the estimate, the gentlemen of the Geological Survey who made the estimate "No doubt can reconcile the same." Have you any information whatever as to whether he can or not?

A. I have not, but as that was part of his work, my natural inference would be that he would be able to harmonize same.

Q. Inasmuch as so many of these figures are frankly stated in the report of the Geological Survey to be estimates, some of them stated to be approximate, does it necessarily follow that these figures
2599 could be reconciled by anybody, whether connected with the Geological Survey or not, giving to them, of course, the intention of presenting the matter as fairly and as nearly accurately as they can.

A. I have no doubt but what they would be able to explain what would seem on the surface were discrepancies.

Q. You think then the average statistician, whether connected with the Geological Survey or not, will be able to reconcile any figures, do you?

A. No, sir.

JOHN J. CORNWELL, Governor of the State of West Virginia, called as a witness, having been first duly sworn, testified as follows:

Direct examination.

(By Mr. Blue:)

Q. You are Governor John J. Cornwell, Governor of West Virginia at this time?

A. Yes, sir.

Q. How long have you been governor of the state?

A. Since March 4, 1917.

Q. Prior to the enactment of the statute in question in this proceeding, were demands and complaints made to you relative to the inadequacy of service by the gas companies operating in the State of West Virginia, and demands and requests made upon you for relief in respect thereto?

Mr. Weil: That is objected to as incompetent, irrelevant and immaterial.

2600 The Commissioner: Note the objection and let the witness answer the question.

A. There were.

Q. Without going into specific dates, but stating generally, at what times and to what extent?

Mr. Weil: That is objected to as incompetent, irrelevant and immaterial.

The Commissioner: Note the objection and let the witness answer the question.

A. They began shortly after I came to Charleston.

Q. As Governor?

A. As Governor, and continued more or less until the enactment of the legislation in question.

Q. What was the general nature of such complaints and requests?

Mr. Weil: That is objected to as incompetent, irrelevant and immaterial.

The Commissioner: The objection is noted and the witness may answer the question.

A. I think the first I heard of this, other than newspaper discussion, was prior to the call I made for a special session of the legislature in May, 1917, or perhaps the legislature convened the latter part of April, 1917, I do not recall. The matter was first brought to my attention by Mr. Steptoe, who represented manufacturers and other gas consumers at Clarksburg in the northern part of the

2601 state. He brought it to my attention with a view of having me include in the call for the special session which it was known was next to be convened, a provision by which the legislature might enact some legislation along the line of this act. I declined to include that in the call for the special session. And then later in the season, I think, as the following winter approached, there were petitions and letters and committees—petitions, letters sent in numerously—and then there were committees that came to call on me regarding this matter, and it had got very acute when the first cold snap came; so much so that I got the heads of several of the gas companies to come to Charleston to confer with me about the situation, with a view of ascertaining whether or not they could provide relief.

Q. Do you recall at this time any of the persons you mean by the representatives of gas companies that you had come to Charleston for conference with you?

A. I cannot recall the names of the gentlemen, except Mr. John G. Pugh, I think, was one of them, who was at that time with the Hope Company, I believe, and I think the general manager or head of one or two of the other large companies. Is there a Carnegie Gas Company?

Q. Yes.

A. I think there was a representative of that company, I am not

sure. I think some gentlemen connected with the United Fuel Gas Company were present.

2602 Q. Were these letters, telegrams and petitions from persons other than manufacturers and manufacturers' associations?

Mr. Weil: The question is objected to as incompetent, irrelevant and immaterial.

The Commissioner: The objection is noted and the witness may answer.

A. Oh, yes. They came from Boards of Trade, Chambers of Commerce, Rotary Clubs, and persons connected with hospitals, from Fairmont, Clarksburg, Morgantown, Parkersburg, and New Martinsville, I think, and all up through the northern, central part of the state.

Q. Were these petitions, letters and telegrams to you, or any of them, preserved by you?

A. They were all preserved. I have them all in possession. I think they are in the vault in my office, which has not yet been opened.

Q. Had you assembled them for the purpose of refreshing your recollection for testifying as a witness as you are testifying now?

A. When you spoke to me about this matter a few weeks ago, I had all those papers and petitions put on my desk by my file clerk, in order that I might look them over and refresh my mind about it. I did not have an opportunity to do so, and when the fire occurred I think they were all put in the vault, taken off the desk and put in the vault there.

2603 Q. When you refer to a fire this week, to what fire do you refer?

A. I mean the fire that burned the capitol building.

Q. In which your office was located?

A. Yes, in which my office was located.

Q. Is it possible for you at this time, or has it been possible up to this time to get into the vault to get these papers?

A. It has not been. It may be a week before I can get in.

Q. You do not know at this time what condition the papers in the vault may be in even when you get in it?

A. No, but I think they are intact; a stream of water played on them; I think they are all right.

Q. Following these petitions, requests and demands upon you for relief, what did you do?

A. I refused to put a provision in the call for the special session in 1917 to deal with this question for several reasons, but I did lay the matter before the legislature or call it to the attention of the legislature at the regular biennial session in 1919.

Q. In what way did you bring this to the attention of the legislature?

A. By a paragraph in my biennial message.

Q. Do you have a copy of that message with you?

2604 A. I have.

Q. Will you read into the record the paragraph of your

message to the legislature bringing to the attention of the legislature this question relative to service of natural gas in the State of West Virginia?

A. The paragraph in question is as follows:

"With the approach of the last winter and the early cold weather there was an acute gas shortage in the central and northern section of the state, especially for manufacturing purposes, which led to a demand of me by gas consumers for a special session of the legislature to enact a measure under which the gas companies could be compelled to furnish an adequate supply of gas to West Virginia consumers. I gave the matter very careful consideration, examining the legislation and judicial decisions in other states, and arrived at the conclusion that inasmuch as the legislature had created a Public Service Commission for the purpose of regulating and controlling all public utilities, and clothed it with certain powers as set out in the statutes, the grievance should properly be presented to the Commission. I made that suggestion to the interested parties, who accepted it and filed their complaints with the Commission. Evidence has been taken, arguments made, and the matter is now in the hands of the Commission for its determination. The Gas Consumers Association requested me to employ counsel to represent the state
2605 in the case. I acceded to that request, not only because of the importance of the particular questions therein involved, but because I felt that the graver and more far reaching question of the powers of the legislature itself, as well as the general regulatory powers of the Public Service Commission were likewise involved, and that they should be settled by the Commission, and if need be by the courts of the land, in order that we might know once and for all, how far the legislature has gone or how far it can properly go in regulating public service corporations through the Public Service Commission. It is unfortunate that these issues have not been raised and determined long ago; but if we are to proceed along orderly lines and make progress in regulating utilities for the public good, it is high time we knew the extent and scope of the power of the legislature and of the Commission in pursuance of the law creating it, to make such regulations."

Q. What action did the legislature take upon your message to it dealing with the subject, which you have just read into the record?

Mr. Weil: That is objected to as incompetent, irrelevant and immaterial, and because it is impossible for the Governor to state what influenced the legislature in any action they might have taken.

The Commissioner: Note the objection and let the witness answer the question.

2606 A. The legislature passed the act that is involved in this litigation. Of course, I am not able to say whether it did it because of and in pursuance of any suggestion that I made in this message.

Q. It was the only action of the legislature upon your message in

respect to the question of gas and the service thereof to the citizens of West Virginia, however, was it not, the act in question?

A. It is the only act that was passed by the legislature with reference to the regulation or attempt at regulation of the natural gas.

Mr. Hoffheimer: Mr. Commissioner, when Mr. Harry A. Wallace, a witness on behalf of the plaintiff states, was on the stand, a demand was made for the production of certain gas sale agreements to which the United Fuel Gas Company was a party. The question then arose as to the production of those contracts, the refusal at that time of Mr. Wallace having been based principally upon the ground of advice of counsel, Mr. Altizer. Later, as the record in its former parts indicates, there was a conference between Mr. Altizer and counsel for the State of West Virginia with a view of arranging some plan for production of these contracts, without entering into a controversy on the subject or requiring a ruling. Before the plaintiff states closed the evidence, it is fair to state that such an arrangement was made, and the contracts in fact submitted to inspection and produced, but owing to some misdelivery of same we were prevented from reporting the contracts into the record before the plaintiff states closed. I should say also that in order to avoid the necessity for our bringing Mr. Wallace back to the stand, it was arranged that Mr. Wallace might instead make a statement
2607 in explanation of the production of these contracts, in like manner as though Mr. Wallace were present.

The original contracts having been produced, it has been agreed between counsel that copies furnished and now present are to be substituted for the originals as stated by Mr. Wallace. Mr. Wallace in the statement which is to be put in the record mentions that a contract of July 31, 1916 between United Fuel Gas Company, Columbia Gas & Electric Company and Ohio Fuel Supply Company referred to in a communication of July 18, 1918, and modification of original contracts for the sale of gas to the Columbia Gas & Electric Company and the Ohio Fuel Gas Company, have been exhibited to the State of West Virginia and have been conceded by them to be immaterial to the present controversy, and I state on behalf of the State of West Virginia that that statement of Mr. Wallace is correct.

With that preliminary statement and immediately preceding the introduction of the contracts themselves, pursuant to arrangement of counsel, we ask to have read into the record the statement of Mr. H. A. Wallace, which is as follows:

"In Equity.

THE COMMONWEALTH OF PENNSYLVANIA

vs.

THE STATE OF WEST VIRGINIA.

and

THE STATE OF OHIO

vs.

THE STATE OF WEST VIRGINIA.

Before Levi Cooke, Esq., Commissioner.

2608 *Statement of H. A. Wallace.*

The undersigned H. A. Wallace, who was examined as a witness on behalf of the complainants on the 30th day of June, 1920, and asked upon cross-examination to produce the contracts referred to in his testimony for the sale of gas by United Fuel Gas Company to Columbia Gas & Electric Company, Ohio Fuel Supply Company, Central Kentucky Natural Gas Company, Louisville Gas & Electric Company, Hope Natural Gas Company, Pittsburgh & West Virginia Gas Company and Portsmouth Gas Company, and who, at that time, upon the advice of his counsel, refused to produce said contracts, now makes the following statement with reference thereto:

Upon further consideration of said request, the undersigned agrees to comply therewith, and now produces and files, as part of his cross-examination, a copy of each of the contracts referred to (copies being satisfactory to counsel for the State of West Virginia in lieu of the originals, such originals being subject to inspection of the counsel for said State). That in connection with said contract for the sale of gas by United Fuel Gas Company to Ohio Fuel Supply Company, the undersigned desires to state that the method therein provided of fixing the price for such gas has not been strictly followed during the time of his connection with said United Fuel Gas Company, and that said contract with the said Ohio Fuel Supply Company, and also the contract for the sale of gas by United Fuel Gas Company to Columbia Gas & Electric Company, were modi-

2609 fied in the manner set forth in a written communication, dated July 18, 1918, from United Fuel Gas Company to said Columbia Gas & Electric Company and Ohio Fuel Supply Company, a copy of which is attached to said contracts, marked "Modification of Ohio Fuel Supply Company and Columbia Gas & Electric Company contracts", and that the price charged for gas to each of said two Companies, during the year 1918 and at all times since, has been

the price stated in said communication of July 18, 1918. The undersigned desires to state further that the contract of July 31, 1916, between United Fuel Gas Company and Columbia Gas & Electric Company and Ohio Fuel Supply Company, which is referred to in said communication of July 18, 1918, was a modification of the original contracts for the sale of gas to said Columbia Gas & Electric Company and Ohio Fuel Supply Company, and the same has been exhibited to counsel for the State of West Virginia and conceded by them to be immaterial in the present controversy, and that said modification of July 31, 1916, will be produced and filed by the undersigned at any time during the pendency of these suits, if required by any party in interest.

(Signed) H. A. WALLACE."

2610 The Commissioner: Let the statement be spread upon the transcript.

Mr. Hoffheimer: The contracts produced by Mr. Wallace and now offered in evidence are the following:

Agreement dated July 5th, 1913, between United Fuel Gas Company and Louisville Gas and Electric Company, to be marked West Virginia Exhibit No. 35.

Agreement dated October 25, 1915, between the United Fuel Gas Company and The Portsmouth Gas Company, to be marked West Virginia Exhibit No. 36.

Agreement dated November 1st, 1912, between the United Fuel Gas Company and the Central Kentucky Natural Gas Company, to be marked West Virginia Exhibit No. 37.

Agreement dated September 19th, 1910, between the United Fuel Gas Company and The Ohio Fuel Supply Company, to be marked West Virginia Exhibit No. 38.

Agreement dated August 25, 1916, between the United Fuel Gas Company and the Hope Natural Gas Company, to be marked West Virginia Exhibit No. 39.

Agreement dated May 1st, 1920, between United Fuel Gas Company and Hope Natural Gas Company, to be marked West Virginia Exhibit No. 40.

Agreement dated August 25th, 1916, between the United Fuel Gas Company and the Pittsburgh and West Virginia Gas Company, to be marked West Virginia Exhibit No. 41.

Agreement dated May 1st, 1920, between the United Fuel Gas Company and Pittsburgh & West Virginia Gas Company, to be marked West Virginia Exhibit No. 42.

Agreement dated January 1st, 1913, between Columbia Gas & Electric Company and United Fuel Gas Company, to be marked West Virginia Exhibit No. 43.

2611 Agreement in the form of a letter dated July 18, 1918, between Columbia Gas & Electric Company, Ohio Fuel Supply Company, and United Fuel Gas Company, to be marked West Virginia Exhibit No. 44.

The production of these contracts having been made as above stated, the motion for an order to produce or for subpœna duces tecum to require the production of the contracts of the United Fuel Gas Company, is withdrawn by the State of West Virginia.

Mr. Weil: The admissibility of all of these contracts in evidence is objected to as irrelevant and immaterial.

The Commissioner: Let the motion be noted and let the exhibits to received.

Hearing adjourned to be resumed on the 1st day of February, 1921, in the United States District Court Room, Clarksburg, West Virginia, all other and further notice thereof being waived by counsel for the respective parties.

ORIGINAL, #20 & #21.

2612 Supreme Court of the United States, October Term, 1919.

THE COMMONWEALTH OF PENNSYLVANIA, Complainant,

vs.

THE STATE OF WEST VIRGINIA.

THE STATE OF OHIO, Complainant,

vs.

THE STATE OF WEST VIRGINIA.

Before Levi Cooke, Esq., Commissioner.

Defendant's Testimony.

Proceedings of February 8, 1921–February 10, 1921.

2613 Supreme Court of the United States, October Term, 1919.

Nos. 23 and 24, Original.

THE COMMONWEALTH OF PENNSYLVANIA, Complainant,

vs.

THE STATE OF WEST VIRGINIA.

THE STATE OF OHIO, Complainant,

vs.

THE STATE OF WEST VIRGINIA.

Before Levi Cooke, Esq., Commissioner.

Appearances:

On behalf of the Commonwealth of Pennsylvania, A. Leo Weil, Esq.
On behalf of the State of Ohio, Freeman T. Eagleson, Esq.
On behalf of the State of West Virginia, Philip P. Steptoe, Esq., W. S. John, Esq., George M. Hoffheimer, Esq.

O. L. Haught and Lawrence Holbert, Shorthand Reporters.

Clarksburg, West Virginia,
Tuesday, February 8, 1921.

Pursuant to notice, the Commissioner and counsel met at the court room of the U. S. District Court for the Northern District of West Virginia.

Afternoon Session—1.30 o'clock.

2614 Clarksburg, West Virginia,
Tuesday, February 8, 1921.

The Commissioner: Pursuant to the adjournment had at Charleston, West Virginia, and to the further agreement and consent of counsel by which the resumption of the hearing was to be had in the United States District Court room at Clarksburg, West Virginia, not on February 1st, the date to which the last adjournment was taken, but to the 8th day of February, 1921, counsel now being present, the hearing is resumed according to the last agreement and consent.

2615 B. F. ROBINSON, called as a witness, on behalf of the defendant, having been first duly sworn, testified as follows:

The Commissioner: Let the record show the following subpœna and return.

"UNITED STATES OF AMERICA, *ss:*

The President of the United States of America to the Marshal of the United States for the Northern District of West Virginia, Greeting:

[Seal of the Supreme Court of the Pnited States.]

We command you to summon B. F. Robinson and Park Bowser, if they be found in your bailiwick, to be and appear before Levi Cooke, Esquire, Commissioner appointed by the Supreme Court of the United States, at Clarksburg, West Virginia, on the 8th day of February, 1921, to give evidence on behalf of the defendant in certain causes now pending in said Supreme Court of the United States, wherein The State of Ohio and The Commonwealth of Pennsylvania are complainants, and the State of West Virginia is defendant.

Hereof fail not, and of this writ make legal service and
2616 due return.

Witness the Honorable Edward D. White, Chief Justice of the United States, this 22d day of January, A. D. 1921, and in the One Hundred and Forty-fifth year of the Independence of the United States of America.

(Signed) JAMES D. MAHER,
Clerk of the Supreme Court of the United States."

(*Copy of Return.*)

"UNITED STATES OF AMERICA,
Northern District of West Virginia, ss:

Received this writ at Fairmont, West Virginia, on February 5th, 1921, and I hereby certify and return that I executed the same upon the within named on February 5th, 1921, by delivering to him in person at Clarksburg within said Northern District of West Virginia, a duly certified copy thereof. Not executed as to the within named Park Bowser by direction of Philip P. Steptoe, attorney.

C. E. SMITH,
U. S. Marshal for the Northern District of West Virginia,
By HOWARD ADAMS,
Deputy."

2617 Direct examination.

By Mr. Steptoe:

Q. Mr. Robinson, will you give us your age and place of residence?

A. My age is, sixty years old, residence, Clarksburg, West Virginia.

Q. How long have you resided in Clarksburg?

A. All my life. I will correct that to this extent, all but one year of my life, to be accurate.

Q. What connection, if any, have you with the Clarksburg Light & Heat Company?

A. I am President of the Clarksburg Light & Heat Company.

Q. Is that the local company supplying gas to domestic and industrial consumers of Clarksburg and vicinity?

A. It is.

Q. How long have you been connected with that company?

A. Since its organization in 1904.

Q. Prior to that time were you interested in the public service of natural gas to Clarksburg?

A. I was.

Q. In what way?

2618 A. As an officer in the West Fork Oil & Natural Gas Company, a local organization.

Q. Was that company engaged in the service of natural gas for domestic and industrial purposes in Clarksburg?

A. It was.

Q. For what length of time prior to 1904?

A. Four years.

Q. You state that you were an officer of the West Fork Oil and Gas Company, and are now an officer of the Clarksburg Light and Heat Company. Were you, and are you, personally interested as stockholder in those two companies?

A. I am in the Clarksburg Light & Heat Company. The West

Fork Oil & Natural Gas Company has been dissolved and surrendered its charter.

Q. In the year 1904 or thereabouts?

A. No, in the year 1920.

Q. Did the West Fork Oil & Gas Company preserve its organization and business until 1920?

A. It did.

Q. In what way and where was it engaged?

A. It held interests in certain leases which it had at the time of these—in 1904. These leases have been sold to the Pittsburgh & West Virginia Gas Company, retaining a small oil in-
2619 terest. It also had one or two pieces of real estate and certain odds and ends of interest which had not been sold to the Clarksburg Light & Heat Company, and for that reason the organization was kept alive to receive any revenues that might come from their interest in those leases.

Q. But it has not been actively engaged in the service of gas since 1904?

A. No.

Q. Was there any other gas company engaged in serving natural gas in Clarksburg in the year 1904, or prior thereto?

A. There was.

Q. What company was that?

A. The Mountain State Gas Company.

Q. State briefly what became of the Mountain State Gas Company, in so far as concerns Clarksburg and the old West Fork Oil & Gas Company.

A. In 1904 the Clarksburg Light & Heat Company purchased all of the lease-holds and franchises and property of the Mountain State Gas Company in Harrison, Lewis, and Doddridge Counties, together with all of the property and the franchises of the West Fork Oil & Natural Gas Company in Clarksburg and vicinity, and Harrison County, with the exception of those leases that I
2620 have referred to as having been sold to the West Virginia and Pittsburgh Gas Company.

Q. You mean the Pittsburgh & West Virginia Gas Company?

A. Yes, sir, I forget the corporate name.

Q. Now, substantially, that was a merger, was it not, of the two companies?

A. Substantially so. The stockholders of the West Fork Oil & Natural Gas Company subscribed for stock in the Clarksburg Light & Heat Company.

Q. What percentage of the stock in the new company was assigned to the stockholders of the West Fork Oil & Gas Company?

A. Forty-nine per cent.

Q. And what company and interest subscribed for the fifty-one per cent., the other fifty-one per cent.?

A. E. Strong and C. M. Payne and John Tonkin subscribed for fifty-one per cent.

Q. Well, did these gentlemen represent themselves, or were they subscribing for some one else, and if so, whom?

A. They represented the interests of the Mountain State Gas Company.

Q. By what group of financiers, or company, was the Mountain State Gas Company owned?

2621 A. The Standard Oil Company of New Jersey.

Q. And at all times since the merger what company has owned the fifty-one per cent of the Clarksburg Light & Heat Company?

A. The Standard Oil Company of New Jersey.

Q. Does the fifty-one per cent of the Standard Oil Company of New Jersey have representatives on the Board of Directors of the Clarksburg Light & Heat Company?

A. They have.

Q. How many of the directors represent that interest?

A. Four.

Q. And how many the local interests?

A. Three.

Q. Who are the representatives of the Standard Oil Company of New Jersey upon the Board of Directors?

A. Christie Payne, John B. Tonkin and John Tonkin, John Corrin. Your question was as to who represented the Standard Oil?

Q. Yes sir. When was natural gas first used in Clarksburg, Mr. Robinson, for domestic or industrial purposes, or either?

A. I am not quite sure, I think in 1892.

Q. And what company entered the service of Clarksburg

2622 at that time?

A. The Mountain State Gas Company.

Q. Did that company hold a franchise in the City of Clarksburg?

A. It did.

Q. Granted about the year 1892, or before it entered?

A. Before it entered. I don't remember the date.

Q. In what year did the West Fork Oil & Gas Company enter into the business in Clarksburg and vicinity?

A. In 1900.

Q. And did it acquire a franchise before starting business?

A. It did.

Q. What became of these two franchises to the Mountain State Company and to the West Fork Oil & Natural Gas Company; who owns them now?

A. The Clarksburg Light & Heat Company.

Q. And are these the franchises under which the local company is now supplying Clarksburg?

A. They are; that is, the old city.

Q. Does it hold franchises throughout the present city?

A. It operates throughout the present city limits by fran-

2623 chises taken from suburban towns which have since been taken into Greater Clarksburg.

Q. To what extent has natural gas been used in the City of Clarksburg since these companies started supplying it? For what purposes, first, has it been used?

A. For domestic fuel and for manufacturing purposes, fuel.

Q. Now, to what extent?

A. Almost exclusively.

Q. Until about the year 1915 and 1916 was there any other fuel used in any industrial plant around Clarksburg and vicinity?

A. Not to my knowledge.

Q. And how about domestic service?

A. No other fuel was used to my knowledge but natural gas, if it was possible to install it.

Q. During the period you have mentioned as the commencement of the use of gas in this vicinity, and until the present time, the City of Clarksburg has grown very considerably, has it not?

A. It has.

Q. Can you tell us approximately what the increase in growth has been?

2624 A. The present census of the corporate limits of Greater Clarksburg, as taken by the recent census, was a little in excess of twenty-eight thousand. In 1900 it did not exceed six thousand.

Q. And I presume it was still less in 1892 or 1893 when gas commenced to be used?

A. I would think so. I do not remember the census of that time.

Q. What part, if any, has the use of natural gas played in the growth of the community in population and material prosperity?

A. The great increase in the population and growth of Clarksburg can be attributed to the use of natural gas. This cannot be denied. The great abundance of natural gas in 1900, and the great surplus in this vicinity led to the offering of very remarkably low rates of four cents. In fact, it was used as an inducement to encourage factories to come to Clarksburg. I would add to that, there was no other market for the gas at the time and it was used as an inducement, or partially used as an inducement, to bring consumers here.

Q. Well, as a matter of fact, were many industries attracted and did many industries locate here?

2625 A. All the industries that we have, that have been located here, have been induced to come at the extremely low rate of four cents.

Q. And I presume you did not mean to say that all of the industries that located at Clarksburg came in from outside sources, did you? Were not some of the growths of local effort?

A. Some are; very few.

Q. Did the coming in of those industries and their location here bring with them any increase of population in the city?

A. They did.

Q. Any skilled labor?

A. Yes.

Q. Well, give us some idea of the extent of residents brought to Clarksburg by reason of the location of these industries here.

A. You desire me to list the factories that were located?

Q. No sir. The general character of the factories. Would you

estimate for us about how many people were brought to Clarksburg in connection with the location of the industries?

A. I suppose you mean skilled workmen when you say
2626 that?

Q. Yes. I do not expect you to be exact.

A. Well, at least ten thousand.

Q. Many of those skilled workmen and other people connected with the industries located permanently in Clarksburg by the purchase of homes and the location of homes?

A. Many have.

Q. What effect, if any, has the general use of natural gas has upon the construction of dwellings and office buildings and places of business in Clarksburg? Have they been constructed with reference to the use of such fuel to any large degree?

A. I cannot answer that question very intelligently, because I cannot call to mind any inspection report that shows that they have been built solely for the use of natural gas. Some, I would feel safe in saying, have been built without taking into consideration the change of fuel. I have very often been given the impression and understanding by builders that flues have been made regulation size, though not by every builder.

Q. Let me ask you to what extent the dwelling houses in Clarksburg have been equipped for natural gas for heating?

A. All of them have, so far as I have knowledge, been
2627 equipped for natural gas.

Q. To what extent they would have to be changed to adopt themselves to other fuel I understand you are not well posted?

A. I don't know that.

Q. Referring back to the Clarksburg Light & Heat Company, substantially, where is its gas territory located?

A. Within a radius of ten miles surrounding the City of Clarksburg, with a few exceptions of territory running fifteen or twenty miles.

Q. Well, what amount of territory fifteen or twenty miles away?

A. About eight hundred acres.

Q. And where is that located?

A. Big Isaac.

Q. Is that part of the territory acquired from the Mountain State Gas Company?

A. Part of it is and part of it has been acquired since.

Mr. Weil: Do I understand that is the outside territory?

Mr. Steptoe; Yes.

A. (Witness continuing:) In connection with the territory, I will say that we have acquired other leases further away
2628 than that recently, in Wood County, amounting to probably twenty-five hundred acres.

Q. In Wood County?

A. In Wood County. The majority of our acreage is within about ten miles surrounding the City of Clarksburg.

Q. Is the Wood County territory supposed to be gas territory?

A. It has not been sufficiently developed yet. We have drilled one well on it only. A dry hole.

Q. Is it the intention to pipe that gas to Clarksburg, if any is discovered, in Wood County?

A. That has not been decided. The disposition of it has not been decided. We have not discovered any gas.

Q. Has the Clarksburg Light & Heat Company any lines extending to Wood County?

A. It has not.

Q. Would it, in your judgment, be able to transport that gas to Clarksburg?

A. Not unless the volume of gas found was phenomenonally large. That acreage, I do not think, has any bearing on the district of Clarksburg. It was leased for the purpose of developing oil. I only stated that to make my testimony accurate.

2629 Q. What undeveloped territory or reserve acreage, if any, has Clarksburg Light & Heat Company?

A. We do not consider that we have any undeveloped acreage, although we have much that could be possibly explored further with an effort to get all of the gas that might be there in any quantity. And we have recently leased between two and three thousand acres in Sardis District, Harrison County, all of which hha been previously held, with the expectation of trying to see whether or not there are any new fields to be made.

Q. That has been recently acquired?

A. Recently acquired.

Q. Aside from that your company has no reserve acreage, in the sense of undrilled territory?

A. No.

Q. How long since your company has had any undrilled territory?

A. Three to four years.

Q. Has the Clarksburg Light & Heat Company been able, from its own production, to take care of its consumers?

A. Not at all times.

Q. How long since that its own production became unequal to the service of all of its consumers?

2630 A. About five years.

Q. Has it been purchasing gas, and if so, from whom?

A. It has been purchasing gas, and is now, from every source that it can be obtained. We have been buying gas from the Aspure Gas Company, the Pickens farm, Cork and Bowman, Hazel-Atlas Glass Company, recently, R. T. Lowdnes, and Hope Natural Gas Company.

Q. The first five you mentioned are what might be called independent producers, are they not?

A. Yes sir.

Q. Has the amount that you have been able to purchase from these independent producers been sufficient to supply the deficiency in your own production?

A. It has not.

Q. Upon what purchase have you been dependent to make up your deficiency?

A. The purchase made from the Hope Natural Gas Company.

Q. That is the largest, I suppose?

A. The largest.

Q. Considerably larger than all the others together?

A. Yes sir.

Q. And as I understand you, the local company has been buying, and compelled to buy for the last five years from these sources
2631 to make up the deficiency in its own production?

A. It has.

Q. What contract, if any, has your company with the Hope Natural Gas Company; for how long a period, and to what extent or amount?

A. We have a contract with the Hope Natural Gas Company to buy any gas they might have available to sell us from any surplus, after discharging their obligations to other contracts, in no specific amount, and to no definite date, or no definite term of the contract.

Q. If I understand you, it is subject to all prior contracts of sale, and the supply you can get is only out of the surplus?

A. That is right.

Q. And the contract is at the will of the Hope Natural Gas Company?

A. It is subject to cancellation by either party on thirty days' notice.

Q. And what price?

A. Thirty-five cents per thousand.

Q. Let me ask you if the contract with the Hope Natural Gas Company, to which you referred, is verbal or in writing?

A. It is in writing.

2632 Q. Was that contract made as a private contract between the two parties, or did the Public Service Commission of West Virginia have any part in fixing of the price or terms of sale?

A. It was a private contract, a copy of which is now on file with the Public Service Commission in our application for rates.

Q. I meant to elicit this, Mr. Robinson, whether or not the contract as to price, or as to any feature, was advised, directed or had under authority of the Public Service Commission of West Virginia, or was it purely a private arrangement between the parties?

A. It was upon application made by me, as president of the company, to the Hope Natural Gas Company for gas to supply our consumers.

Q. Let me ask you, if, in your efforts to acquire the amount of gas your company needed, you have at any time sought to purchase from the Pittsburgh & West Virginia Gas Company, or from the Reserve Gas Company?

A. We have, in the past, made application to each one of those companies.

Q. With any success?

A. There has been no success. They have no gas to sell.
2633 I would add to that that we made application to each of these companies prior, I think, to our making application to the Hope.

Q. How many connections, if more than one, are there between the systems of the Clarksburg Light & Heat Company and the Hope Natural Gas Company?

A. There are five connections at different points on their line, surrounding the city.

Q. Are there any pump stations located at any one or more of these points of connection?

A. We get our principal supply of gas from the connection made just west of Clarksburg at the Goff pump station, from which we get the majority of our gas, and then we have another connection just a little southwest, at Wilsonburg, near the Reserve pump station. Our gas we get from these two connections, come from the pump pressure, and the other three is made upon gathering lines that are run at convenient points to our system, but our principal supply, as I say, is on those high pressure lines leading direct from the stations.

Q. Has the Clarksburg Light & Heat Company any pump stations of its own?

A. One.

2634 Q. And where is that located?

A. At Big Isaac.

Q. And does it handle any gas except the small amount you get from Big Isaac?

A. None but the gas from that territory.

Q. And that is a very small proportion?

A. Very small proportion.

Q. Upon what pressure does your company rely to market its gas, natural pressure or rock pressure?

A. Yes.

Q. With the exception of that one pump station located out on the edge of Lewis County, all of your gas is marketed by means of natural pressure?

A. All of it.

Cross-examination.

By Mr. Weil:

Q. Mr. Robinson, if I understood you correctly, the Mountain State was supplying Clarksburg, as well as the West Fork Company?

A. They were.

Q. At one time?

A. Yes sir.

Q. And the Mountain State at that time was owned by cer-
2635 tain interests connected, as I understood you, with the Standard Oil interests?

A. It was.

Q. The formation of the Clarksburg Light & Heat Company was

by merging or purchasing, whatever the form of organization, of these two companies, the Mountain State and West Fork?

A. Yes.

Q. And since that formation of the Light & Heat, that company has been supplying this territory of Clarksburg and vicinity with gas, has it?

A. It has.

Q. You obtain your gas in part, from your own production?

A. We do.

Q. And in part by productions from parties, the names of whom you gave us, this is correct, is it?

A. That is correct.

Q. Would you say the larger part of your production is obtained from your own production—or the larger amount of gas, I should say, from your own production, or from purchases?

A. The larger amount of our gas is obtained from our own
2636 production.

Q. And you make this purchase then, to make up for the deficit, whatever it may be, from time to time?

A. We do.

Q. What is your rate to the industrial consumers in this section?

A. Forty cents.

Q. And domestic?

A. Twenty cents at present.

Q. And you pay thirty-five cents to the Hope, I believe you stated, for the gas you purchase from them?

A. Yes sir.

Q. I presume then, that is applied to the industrial consumers?

A. The most of it is. There is part of it which goes to domestic consumers. Our first duty is to the domestic consumer, and we do not stop buying gas if they need a supply of gas.

Q. Even though you lose money in supplying?

A. Even though we lose money.

Q. And, as a matter of fact, you purchase gas, do you not, from any one that is tributary or close enough distant to your lines
2637 to warrant you in laying the lines to obtain the gas?

A. From any source that we can obtain it that is within a reasonable distance to pay us to buy it.

Q. And that has been your practice, has it, since you have been President of the Clarksburg Light & Heat Company?

A. Yes sir.

Q. You have been the president since it was organized?

A. No.

Q. How long have you been president?

A. I have been president for three years. Prior to that time it was John Koblegard, who was president of the West Fork Oil & Natural Gas Company.

Q. And did you have any connection prior to the time you were made president of the Clarksburg Light & Heat Company?

A. I was one of the directors.

Q. Was that the situation then during the whole history of the company?

A. That has been the situation during the whole history of the Clarksburg Light & Heat Company.

Q. How much territory do you own altogether?

A. About sixteen thousand acres.

Q. And how many wells have you?

2638 A. In the neighborhood of two hundred, or a little over two hundred.

Q. And are you drilling your territory so as to develope it all?

A. We have been drilling continuously, drilling wells.

Q. And how many have you been drilling a year for the last three or four years?

A. Between fifteen and twenty.

Q. Every year?

A. Every year.

Q. What does it cost to drill a well now?

A. Between twelve and thirteen thousand dollars.

Q. When was the contract made with the Hope Company?

A. Well, it was made about——

Q. I don't care for the exact date, but about when?

A. About last September, or between August and September; I forgot the date, of 1920.

Q. Prior to that time then you had no contract with the Hope Company at all, or did you have?

A. We had a similar contract at a different price.

Q. And when did you make your first contract with the Hope Company?

A. I cannot give you the date of that, probably 1916 or

2639 1917.

Q. The Clarksburg Company, if I understood you, was organized in 1904?

A. Yes.

Q. So that was twelve, or about twelve years or longer after the organization of the Clarksburg Light & Heat Company that you made your first contract?

A. About that, yes sir.

Q. Were you forced to make that contract on account of a shortage of gas, because you did not have enough to supply your consumers?

A. Yes.

Redirect examination.

By Mr. Steptoe:

Q. You do not mean to be understood as saying that you have, for any considerable length of time, been buying gas at thirty-five cents and selling it at twenty cents to domestic consumers, do you? Isn't that a recent matter?

A. I only meant to say that since the date of the contract in August or September we have been paying thirty-five cents to the

Hope Company for gas. What part of that goes to supplying domestic consumers I do not remember, or what percentage of gas
2640 we buy from any other source goes to domestic, but some of it does. It may not be a matter of importance in this case, but we are paying thirty-five cents for gas to other people which goes to domestic consumers.

Q. As a matter of fact your company has adhered to the principal of cutting off the industries in order to supply the domestic consumers?

A. Yes sir.

Q. And your purchases from the Hope Company have not been for the purpose of supplying the industrial needs, have they?

A. Largely for that purpose.

Q. Is your own supply sufficient to take care of your domestic consumers?

A. Well, under certain conditions of temperature it is.

Q. Not at all times?

A. Not at all times.

Q. And you have to buy to take care of your domestic consumers as well as the industrial?

A. As well as the industrial.

Q. Has your company got now pending, an application for increased rates to meet this situation?

A. It has.

2641 Q. And that is before the Public Service Commission at the present time, and undecided?

A. It is.

Q. In your estimate of sixteen thousand acres of territory, do you include your Wood County holdings?

A. Yes.

Q. Do you include any other territory which is unfavorable for marketing to Clarksburg?

A. No.

Q. What was the extent of the acreage which your company acquired from the Mountain State interests in the merger in 1904?

A. I don't remember now.

Q. Could you approximate it?

A. I doubt whether I could.

Q. Do you recall any acreage other than the eight hundred acres you mentioned in Lewis County, as taken over from the Mountain State Gas Company. I mean in Lewis and Harrison Counties?

A. I could only give you a guess at it now. It has been some time ago.

Q. Give us your recollection.

A. About fifteen hundred acres I would say would be proper at that time.

2642 Q. Did your company take over anything from the South Penn Oil Company in the way of acreage or wells or leases?

A. No.

Q. It was stated, I think by Mr. Corrin, in connection with the plaintiffs' direct evidence, that the Mountain State Gas Company

was formed for the purpose of using the gas produced from South Penn leases and developed in the course of searching for oil. Do you confirm that, or is that your understanding?

A. I cannot confirm that from my knowledge of the records. Such leases and wells as were taken over when the Light & Heat acquired the Mountain State was all held in ownership by the Mountain State Gas Company. The title to those may have shown that they came from the South Penn.

Q. But you did not take over any leases owned by the South Penn, or any wells?

A. I have no recollection of any wells that came to the Light & Heat Company at that time that were deeded direct to them by the South Penn Oil Company. If there was such it has been years and I have forgotten it.

2643 Recross-examination.

By Mr. Weil:

Q. That acreage in Wood County was how many acres, did you say?

A. About twenty-five hundred is my remembrance.

Q. Is that included in your sixteen thousand acres?

A. It is.

Q. And I believe you stated you were drilling, or going to drill that?

A. I stated that we had drilled one well.

Q. Are you going to drill any other wells on that territory?

A. We expect to.

Q. And you stated that was some distance from your lines, as I understand it?

A. It is.

Q. Isn't it the custom among the gas producers, if they obtain gas some distance from their line, that it can be turned into the line of other gas companies adjacent to the production; that they swap or exchange gas with each company and thereby obtain the immediate use of the right quantity of gas into their line from that company having lines in proximity to your lines?

2644 A. That is frequently the custom. Or, we can sell the production to that company, which we would doubtless do. We have exchanged territory once in a while, if we can make any exchange that would prove a value to us.

Q. Is your company making an effort to obtain an additional gas supply by looking out for leases and drilling those leases in territory which you think would be available to your purposes?

A. It is, and has been for years.

Q. Has been for years?

A. Has been ever since it was organized.

W. C. ALLMAN, called as a witness, having been first duly sworn, testifies as follows:

Direct examination.

By Mr. Steptoe:

Q. Mr. Allman, where do you live?
A. Weston, West Virginia.
Q. What official position, if any, have you recently held in connection with the Circuit Court of Lewis County?
A. I was Clerk of the Court for six years.
Q. Your term has expired now, has it not?
A. Yes sir, January 1st.
2645 Q. You were clerk for the six years immediately preceeding January 1, 1921?
A. Yes sir.
Q. While you were Clerk of that Court were there any proceedings by way of condemnations for pipe lines before your court?
A. Yes sir.
Q. A considerable number?
A. Yes sir, quite a few.
Q. Principally by what companies or persons?
A. West Virginia Central Gas Company, The Hope Gas Company and Reserve Gas Company.
Q. And Pittsburgh & West Virginia Gas Company, or Philadelphia Company of West Virginia?
A. Yes sir, a few cases.
Q. I hand you now the original file in the case of Reserve Gas Company against Franklin McKinley, et al., a condemnation proceeding, endorsed, "Ended March, 1915," and will ask you if that proceeding was in your Circuit Court during your term as Clerk.
A. Yes sir, that case was pending when I entered the office as Circuit Clerk.
Q. I call your attention to the original petition filed, and
2646 will ask you if that is a typewritten or printed form, filled in to suit the particular case.
A. The petition is the original form.
Q. Well, is it printed?
A. Printed form, yes sir.
Q. Do you recall whether the petition in such proceedings on behalf of the Reserve and Hope are customarily printed?
A. Yes sir, they are printed or typewritten.

Mr. Steptoe: We have had the Clerk then in office, produce the original file for the inspection of counsel, and we now here offer in evidence a copy of the proceedings, excepting some of the immaterial papers, especially the petition for writ of error, and papers filed in connection with that in the original case. We want this exhibit filed and marked "Exhibit West Virginia No. 45."

Mr. Weil: It is objected to as incompetent, irrelevant and immaterial to any issue in this controversy, and so far as being a proceeding in court effecting any question now before this court it is res inter alios acta.

The Commissioner: Let the objection be noted and the Exhibit marked.

2647 I. WADE COFFMAN, called as a witness, having been first duly sworn, testified as follows:

Direct examination.

By Mr. Steptoe:

Q. What is your place of residence Mr. Coffman?
A. Clarksburg, West Virginia.
Q. What official position do you hold in connection with the Circuit Court of Harrison County? How long have you held that office?
A. I am the clerk of the Court, and have held it for twelve years.
Q. You are now such clerk?
A. I am.
Q. During your two terms as Circuit Clerk has there been any condemnation proceedings in the Circuit Court of Harrison County for pipe lines for the transportation of natural gas?
A. Yes sir.
Q. Has there been many of them?
A. Several, quite a number.
Q. What are the principal companies or persons making such applications for condemnations?
A. I believe most of the proceedings have been brought by the Hope Natural Gas Company, and there are other companies
2648 also that have brought them.
Q. Has there been any by the Carnegie Natural Gas Company, Fairmont and Grafton Gas Company, Philadelphia Company of West Virginia and The Pittsburgh and West Virginia Gas Company?
A. For them also.
Q. Do the forms of the application made by the different companies vary, do you recall, just speaking general?
A. Somewhat.
Q. Will you state if you have, at our request, made copies of the proceedings in the following condemnation proceedings of the court mentioned, namely, Hope Natural Gas Company against Arthur W. Rhodes, et al., The Fairmont and Grafton Gas Company against Richard V. Thompson, Guardian and others; Carnegie Gas Company against A. G. Swiger and others; The Philadelphia Company of West Virginia against W. M. Curry; The Pittsburgh and West Virginia Gas Company against Carrie Morrison and others?
A. I have.
Q. Have those copies, of the several proceedings been certified by you as clerk, and by the judge of the Circuit Court?
A. Yes sir.
Q. Did you, at my request, look at the original file in the case first mentioned, namely Hope Natural Gas Company against Rhodes to

see *what* whether the original petition there filed was type-
2649 written or printed?

A. It was printed form with the dates and so on inserted.

Q. As I understand you, a printed form filled in so as to conform to the particular case?

A. Yes sir.

Mr. Steptoe: We now offer in evidence the copies just mentioned to be filed as exhibits marked for identification as follows; Hope Natural Gas Company against Arthur W. Rhodes and others to be marked West Virginia Exhibit No. 46; Pittsburgh & West Virginia Gas Company against Carrie Morrison and others West Virginia Exhibit No. 47; The Philadelphia Company of West Virginia against W. M. Curry; Exhibit West Virginia No. 48; Carnegie Natural Gas Company against A. G. Swiger and others Exhibit West Virginia No. 49; The Fairmont & Grafton Gas Company against Richard V. Thompson, Guardian and others Exhibit West Virginia No. 50.

Mr. Weil: We object to these exhibits for the same reason given to the previous exhibits and so far as any omissions or statements in the proceedings are concerned, res inter alios acta.

Commissioner: Note the objection and let the exhibits be filed.

Cross-examination.

By Mr. Weil:

Q. If I understood you rightly you did not undertake to
2650 say that is all of the condemnation proceedings instituted in the Court during the time that you were clerk for the last twelve years, and are these five cases that you have named; there were others were there not, besides?

A. I cannot say that in the absence of looking the record up, no sir.

Q. You don't know then whether they are all of them or not?

A. I don't recall any others, and do not pretend to say.

Q. You do not pretend to say that there were no others?

A. No sir.

R. T. CUNNINGHAM, called as a witness, having been first duly sworn, testified as follows:

Direct examination.

By Mr. Steptoe:

Q. Mr. Cunningham give you- age and place of residence.

A. Age 46; Fairmont, West Virginia.

Q. Is that in Marion County?

A. In Marion County, yes sir.

Q. How long have you resided at Fairmont?

A. Since July 1894.

Q. What is your present occupation or business?

2651 A. I am secretary and treasurer of The Monongah Glass Company.

Q. Is your company located at Fairmont?

A. Yes sir.

Q. How long have you been connected with that glass company, or with the glass business?

A. I have been interested in the glass business since about 1910. I have been an officer of that company devoting all my time to it since April 1914.

Q. Prior to that your business was—what business were you in?

A. Prior to 1914, about 1894 I was employed in the coal business.

Q. With what company or concern?

2652 A. Originally with and by the several companies owned by the Watson inter-sts at Fairmont.

Q. That would be the Fairmont Coal Company and Consolidation Coal Company and kindred companies?

A. Yes sir, and companies that were merged into them, yes sir.

Q. Do you recall when natural gas first came into common use in Fairmont? For domestic or industrial purposes, or either?

A. It was prior to 1894 when I went to Fairmont.

Q. Since that time to what extent has natural gas been used in Fairmont for domestic or industrial use, or both?

A. Natural gas has been universally used in the domestic line, and also in the industrial plants requiring fuel.

Q. Are they so used today?

A. Yes, except in one of the larger industries which has just put into operation in the last few months its producing plant.

Q. What company or association supplies natural gas to the City of Fairmont and vicinity?

A. The Monongahela Valley Traction Company supplies all the natural gas used by the Local people, used for domestic purposes, and with the exception of one corporation, all that is used for industrial purposes, and in the case of that one corporation

2653 it supplies a part; formerly, until this year, practically all.

Q. What company do you now refer to?

A. The Owens Bottle Company.

Q. Has the company supplying Fairmont been the same company, the Monongahela Valley Traction Company, from the beginning of furnishing gas to Fairmont?

A. No sir.

Q. Do you know whether or not the Monongahela Valley Traction Company is now a new company or a successor to those that formerly supplied Fairmont.

A. In its gas department it is a successor to those that formerly supplied the natural gas.

Q. Do you know whether the company originally supplying Fairmont was doing so under a franchise, and if so, about when the franchise was granted?

A. By that you mean the original?

Q. Yes sir.

A. The franchise would have been granted prior to 1894, at the time I went there.

Q. Is that franchise now held by the persons or present company supplying gas?

A. Yes sir.

Q. Do you know whether or not the Fairmont and Grafton
2654 Gas Company at one time owned and held that franchise and supplied Grafton?

A. Yes sir.

Q. Briefly tell us about the Fairmont and Grafton Gas Company, how it became divorced from the service at Grafton.

A. As I recall, the company sold its franchise and plant in the City of Fairmont about the year 1900 to 1902 to a company made up of local people, called, I think, the Fairmont Gas and Light Company?

Q. Then the Fairmont Gas and Light Company passed down successively to the present Monongahela Valley Traction Company?

A. Yes sir.

Q. Do you know whether the Fairmont and Grafton Gas Company is the same as the company now doing business in West Virginia under the name of Pittsburgh & West Virginia Gas Company, by change of name?

A. That is my information, yes sir.

Q. Do you know, in a general way, where the gas territory of the Monongahela Valley Traction Company lies, and its extent?

A. In a general way, yes sir.

Q. Suppose you tell us.

A. The company has approximately eighteen thousand
2655 acres of territory lying westerly of Fairmont, possibly from six to twelve or fourteen miles away, not in one solid block. Of that amount they have developed practically five or six thousand acres, and, as I understand, they have something like twelve thousand to fourteen thousand acres which they consider undeveloped.

Q. Do you know whether the Monongahela Valley Traction Company has production of its own sufficient to supply its consumers, domestic and industrial?

A. It does not have at this time.

Q. Does it have sufficient to supply, from its own production, its domestic consumers?

A. No sir.

Q. Does the company buy gas, and if so, from whom?

A. The company buys gas at the present time from the Carneigie Natural Gas Company, and until December 14th last it purchased some of its gas from the Pittsburgh & West Virginia Gas Company.

Q. How long, or how many years has it been during which the Monongahela Valley Traction Company has been compelled to buy gas to supply the deficiency in its own production?

A. I should say back for at least five or six years or more.

2656 Q. Do you know whether that company ever purchased gas from the Hope Natural Gas Company?

A. Yes sir.

Q. Do you know whether the Monongahela Valley Traction Company has physical connections now with the three companies you have mentioned from which it has bought gas?

Mr. Weil: Which three companies are they?
Mr. Steptoe: Carneigie, Hope, Pittsburgh & West Virginia.

A. The company now has connection with the Carneigie Company, and until December 14th last had a connection with the Pittsburgh & West Virginia Gas Company. Whether or not that connection has been broken since that date I cannot say. Prior to that, or I should say some years ago, they had a connection, and whether they do or not now I cannot say, with the Hope Company.

Q. Do you happen to know whether or not these three several connections were made at pump stations, or whether pump stations were installed to effecuate the purpose of the connections?

A. I cannot answer that question as to whether or not the connections were at pump stations, and I do not believe that the
2657 pump stations were installed for the purpose of facilitating those particular connections. I would say they were not.

Q. You have no accurate knowledge on the subject?

A. No.

Q. How near to the City of Fairmont, or to the community served by the Monongahela Valley Traction Company, do the main lines of the Hope, the Pittsburgh & West Virginia, and the Carneigie, run?

A. The connection between the lines of the Monongahela Valley Traction Company and the Pittsburgh & West Virginia Gas Company is, I think, within the city limits or very close to the city limits. The connection with the Hope Company was south of Fairmont in the neighborhood of the Hutchinson power plant, possibly ten miles from that neighborhood, and the connection with the Carneigie Company is west of Fairmont where the lines cross, possibly six or eight miles out.

Q. To what extent has gas been used in Fairmont during the period since you have been there—1894 to the present time?

A. Until 1919, the spring of 1919, natural gas for domestic and industrial purposes was the sole source of fuel for practically all of the domestic consumers, and for all of the consumers using
2658 large quantities. I want to correct one of my earlier statements to the extent that in addition to the producer plant of the Owens Bottle Company, put into service this fall, that in the spring of 1919 the Monongahela Valley Traction Company commenced to supply gas from producers to the Monongah Glass Company for use in a part of its plant.

Q. And I assume that the factories and industrial plants and houses were equipped for the use of gas, of course?

A. Yes, sir.

Q. What have you to say with reference to the way in which houses, dwelling houses, have been constructed by reason of the fact of natural gas being used, and the adaptation of those houses to the use of other fuel?

A. Well, all of the houses were originally constructed for the consumption of natural gas, both for heating and cooking.

Q. Would a change, or an enforced change to the use of other fuel require an alteration of the houses, and if so state whether or not, and state generally and briefly to what extent alter——

A. Alteration in houses—I am speaking generally now without figures—houses built for the use of heating plants and by hot water or steam from a central furnace in the house, were very
2659 largely built with smaller flues than would be needed if the intention was to burn coal in those furnaces, so that a great number in use in Fairmont now will find that in order to change from gas to coal or coke it will be necessary for a large number to enlarge their flues or build two flues. That difficulty will not effect the houses using grates however, because the flues are large enough for coal in grates, in many cases.

Q. Are there many dwellings in Fairmont equipped with furnaces, such as you just referred to?

A. Quite a large number, yes, sir, the larger houses.

Q. About what percentage of the dwellings, as near as you can estimate it, from your observation?

A. Of course it would be merely my estimate. I would say ten per cent. of the houses.

Q. What would be necessary to adapt the houses for other fuel that are now without furnaces?

A. Such houses are heated either by grates in the several rooms or stoves burning gas. I should think the only change there would be to substitute a coal grate or coal stove for the present gas burning equipment.

Q. That, however, would require the installation of grates and stoves for burning coal in each room for heating the house?

2660 A. Yes sir, it would require a change in each room where there was fire, of some kind or another.

Q. To adapt the house to the use of coal in a furnace, would that require a great change or great expense?

A. To make such adaptation would require, where flues are not large enough, it would require the enlargement of the flues, or reconstruction of them; and in a good many cases there would be required provisions for opening into the basement to get coal in, which, in a great number of cases, have not been provided heretofore, and not contemplated.

Q. And that would be a rather expensive change?

A. Yes.

Q. Now is there any considerable percentage of houses constructed without either furnaces or grates in using natural gas.

A. I should think not.

Q. You spoke of a good many Fairmonters considering the change to the use of coal. Why is that under consideration? Is your supply of gas inadequate for domestic purposes?

A. The supply of gas in Fairmont, since the winter of 1916 and 1917 has been, in cold weather, inadequate for both industrial and

domestic consumers, and in severe weather, in very severe
2661 weather, with industrial consumers reduced to the minimum, there has been a shortage of gas in some sections for domestic use. This winter, on account of the mild weather there has been no shortage among the domestic consumers to speak of, so far.

Q. You referred to the fact that the Monongahela Valley Traction Company is now purchasing of the Carneigie Natural Gas Company in order to supply the deficiency in its own production. Do you know whether or not that purchase is under a contract, and how long it lasts?

A. Yes sir, it is under contract, and the contract is now in its second year. It is now filling a second annual contract. I think it expires in August next.

Q. What amount of gas is being delivered under that contract, do you know?

A. I don't know exactly, because the contract does not compel the Carneigie Company to deliver gas when it does not have it; but the information given me at the time the original contract was made with the Carneigie Company was that the maximum would be four million of feet.

Q. Per day?

A. Per day, if the Carneigie Company could spare it. But the Monongahela Valley Traction Company was, under the contract, required to purchase gas throughout the year. The larger
2662 percentage of the total being available, under the contract, during the winter months, and smaller percentage during the heated or hot months.

Q. Now, has the city of Fairmont grown any since you went there in 1894?

A. Yes sir.

Q. Give us an idea of its growth?

A. The last census showed a population, within the city limits, of eighteen thousand, approximately. The 1910 census, I think, was between ten thousand and eleven thousand. I don't recall the 1900 figures, but I should judge in the two towns then existing, it was possibly six thousand.

Q. Those two towns have since become the City of Fairmont?

A. Yes sir.

Q. Now has the use of gas at Fairmont had any appreciable effect in the growth of that city which you have mentioned?

A. Yes sir.

Q. State briefly in what respect and how the use of natural gas played a part in the development of the community.

A. The availability of natural gas at low rates was the
2663 cause of the location of the industries there requiring gas for fuel, which industries, of course, brought with them skilled help and attracted other labor into the community, which caused quite a substantial part of the natural growth.

Q. Have the skilled workmen and people financially interested in those industries located and built homes in the city?

A. Quite a number of them, yes sir.

Q. Are those workmen dependent on those plants?
A. Yes sir, entirely so in case of skilled workmen.
Q. I suppose when those workmen or other people interested in those industries located there, they brought their families, did they?
A. The skilled workmen, yes.
Q. You have more or less knowledge of the general conditions throughout the Monongahela Valley of West Virginia, have you not?
A. In a general way, yes sir.
Q. Was the influence of natural gas in the growth and development of Fairmont confined to that city, or does that extend to other cities and communities throughout the Valley?
A. That extends to other communities in the Valley.
2664 Q. Name some of the principal cities in the Valley.
A. The City of Morgantown, and City of Clarksburg and Town of Mannington and Town of Weston and Buckhannon and Grafton.
Q. In what counties are those cities you have mentioned?
A. The City of Morgantown is in Monongalia County, the Town of Mannington is in Marion County, the City of Clarksburg is in Harrison County, and Weston is in Lewis County, and Buckhannon in Upshur, and Grafton in Taylor.
Q. You have referred to a shortage in the supply of gas at Fairmont. In what year did you say that was first evidenced?
A. The first serious shortage was in the winter of 1916 and 1917. There may have been some minor shortages prior to that, but not of a nature to be alarming.
Q. Will you give us, briefly, what you mean by the shortage, and what was the effect locally, both with respect to industries and domestic consumers?
A. The first severe shortage was during the extreme weather which was over quite a continuous spell of some sixty days in, I think, the winter of 1916 and 1917. There was practically no fuel for the industries for the period of almost sixty days, and during that same period quite a great deal of suffering among the
2665 domestic consumers, to such an extent that schools had to be closed for short periods of time and churches could not be properly heated at times, and there was considerable suffering and inconvenience in some sections of the city in the houses.
Q. What effect did the lack of gas have upon the industries and upon the workmen employed?
A. That particular winter it caused a suspension of the glass activities for a period of from four to eight weeks almost entirely, causing unemployment to large numbers of the employees.
Q. What would you say with reference to the damage and injury to the business by reason of being shut down, as to the various industries?
A. I don't expect I could tell——
Q. I do not expect you to estimate the amount, but to give us the general idea as to whether it was considerable or otherwise.
A. The injury in the industries was mainly from the inter-

rupted operation, which, in some industries, caused great uneasiness among the employees, and in one instance in particular, quite a number of the most valued employees sought employment elsewhere, and ever since that time the known insufficient sup-
2666 ply of gas for fuel purposes has been quite a deterrent factor in two industries, interfering with the supply of skilled labor by reason of the want of confidence on the part of such labor in continued employment, which has caused a serious reduction of production during a period when such industries could have enjoyed very prosperous times, owing to the business conditions existing during that period.

Q. What have you to say with respect to the financial loss to the industries themselves, the owners?

A. The financial loss during the period I speak of, 1916 and 1917, was quite large, and in one industry in particular, has been quite large ever since, owing to shortage of skilled help, caused in the main, by uncertainty of the gas supply.

2667 Q. You spoke of the general use of gas in Fairmont. Did you mean to incluse public buildings, hotels and establishments of that character?

A. During what period?

Q. I refer now to the period before shortages of gas appeared.

A. Yes sir.

Q. Now, did the severe shortage which developed in 1916 and 1917 affect those buildings?

A. Yes sir.

Q. Well, in what respect?

A. Quite a number of the larger buildings have, and some of the smaller industries have, ceased to depend upon natural gas and substituted coal. Some two or three years ago, during the cold months.

Q. I take it then there has been recurrent shortages.

A. Yes.

Q. With reference to your own plant, does it use natural gas exclusively?

A. No sir; we used—since the spring of 1919 we have been using producer gas supplied us by the Mononghalia Valley Traction Company from a producer plant built by it for experimental purposes, in one of our factories, and during periods of the shortage of natural gas we have used producer gas periodically in another furnace, in one of our other factories.

2668 Q. Have you had occasion to figure on the construction of producers for your own plant, and if so, why?

A. Yes sir. In 1917, we decided on the construction of an additional plant for the manufacture of tumblers by automatic machinery, having knowledge of the uncertainty of the natural gas supply, we contemplated the construction of producers for one of our plants and constructed for their installation, and purchased the producers. We did not install those producers for the reason that the Mononghalia Valley Traction Company had in mind the construction of the experimental producer plant that I referred to

heretofore, and they took up with us the question of our working together with them and arranging to use gas from their producer plant in this new plant of ours in lieu of building our own producers. We reached an understanding with that company and canceled our arrangement for the installation of our own producers for the new plant, and arranged with the Monongah-lia Valley Traction Company to take gas from its proposed plant?

Q. Have you used that producer gas since that shortage,—since the time you refer to?

A. Yes, we got our plant ready for operation in the spring of 1919, some two or three months, possibly, before the Monongahalia Valley Traction Company got its producer plant in operation, and we operated from the latter part of March until some time
2669 in May by using natural gas in that furnace, and since that time we have operated that furnace with gas from the producer plant, augmented at times by natural gas, by reason of the fact that the producer gas at times was not of sufficient richness in its units to run the furnace, and we have quite frequently had to turn in natural gas and burn it with the producer gas in order to maintain the temperature required?

Q. That was in your new plant.

A. Yes, sir.

Q. What do you use on the old plant?

A. We were depending absolutely on natural gas in the old plants.

Q. Have you been shut down with any degree of frequency?

A. We have had quite frequent interruptions, during the winter of 1917 and 1918 and 1918 and 1919, with shortages of natural gas, as during this present winter but, interruption for a short period.

Q. Have you made an estimate of the cost of changing to the use of producer gas, or the construction of producers for your old plant, in round figures and just when do you contemplate the construction of producers?

A. We contemplated the construction of producers during this coming summer for all of our plants located at Twelfth Street, being plan-s number one, two, three, and six, number six plant be-
2670 ing the new plant.

Q. What is your estimate of the cost of making the change?

A. We are just now engaged in compiling those estimates, the first estimate for an initial producer plant to take care of factories one, three and six, as projected, would have required an expenditure of, on the plans projected, of a half billion dollars; since that time we have decided against building the plant originally projected, on account of its cost, and are now engaged in projecting a producer plant for factories one and three, and another plant for factory number six, which is the new factory. So far, we have not gotten definite figures on what that installation will cost,—these two installations will cost,—but I would be very much gratified if the expenditure for the producers, and the trackage facilities, storage

facilities for coal, and handling equipment run under two hundred thousand dollars for the unit absolutely necessary for the operation of a part of our furnaces in those three plants. The furnaces, four in number, two in plant number one and two in plant number three, are designed for the consumption of natural gas only, and three of these furnaces, two in plant number one and one in plant number three, will have to be abolished and entirely rebuilt, to enable us to efficiently use or consume producer gas. The fourth furnace will not have to be entirely rebuilt, but will have to tear down and rebuild the generators to that furnace. We will
2671 also be compelled to reconstruct, in a very large measure, the leers for all four of these furnaces, so as to admit the use of producer gas in them. We only have given rough estimates of what it will cost to rebuild those furnaces, but we are of the opinion, to rebuild the three furnaces that have to be entirely rebuilt, and the leers connected with them, will cost in excess of one hundred thousand dollars, and to reconstruct the generators for the one furnace that will have to be entirely rebuilt, and to muckle the leers for that furnace will probably cost us about thirty-five to forty thousand dollars.

Q. Then, to summarize, what is your estimate of the entire cost of installation adequate to reconstruct and change your plans and adapt it throughout to the use of producer gas.

A. For the three plants treated just now, the total cost will be considerably in excess I fear, of three hundred thousand. And in addition to what I have just mentioned, we contemplate the construction of a producer to supply gas to our number two plant, in which we have a top furnace and leers, and to make the change there will probably cost forty thousand to fifty thousand dollars; at least forty thousand; that does not make any provision for the furnace in our factory number four, which is located at the foot of Sixth Street, nor for the furnace in our factory number five, which is located at the foot of Seventh Street,—we have made
2672 no estimate as to what it will cost there, and we do not contemplate making those changes in the near future. The plants are not now in operation.

Q. It has been claimed, Mr. Cunningham, in the testimony in chief, that if the people and the industries of West Virginia were to get a full supply of gas, the domestic and industrial consumers will go upon a gas spree or gas be bought. In that connection, let me ask you what is your opinion on that subject, especially in view of the present prices of gas?

A. By spree or debauch, do you mean there will be an orgy of burning gas?

Q. I think that was the impression given.

A. I should — that the success the gas companies have had and are having in increasing the rates for the consumption of gas throughout the state, and particularly the north end of it, would act as an automatic guarantee to the gas company that the West Virginia consumers will not go into *an* such debauch.

Q. Let me ask you there, what an increase of, say for example, ten cents per thousand cubic feet would mean to your company, in the course of a month, in dollars and cents?

A. Based on our present consumption, which is about a billion and a half feet a day, when we can get it, it would mean about one hundred and fifty dollars a day.

2673 Q. It would mean approximately five thousand dollars a month.

A. Forty-five hundred to five thousand dollars, yes sir.

Q. Has the price of gas today any influence upon your determination to go to the use of producers gas?

A. I will say that the shortages up until now has been the greatest reason for our contemplating the construction of producers, and that is augmented by the imminent danger of a large increase in the cost of the gas; the Monongahela Valley Traction Company now being an applicant before the public service commission for an increase in the price of gas, and the quality of the gas, which will entail, in excess of the fifty per cent advance, if they get what they ask for——

Q. What is that price?

A. The price they are asking for is forty cents net for natural gas mixed with gas from their producer plant, at the minimum of a thousand heat units, the natural gas, unmixed with the producer gas, ranges in heat units from 1075 to 1150, so that the increase from the present rate of approximately twenty-three and three-fourths cents, averageing through the year to forty cents, and the reduction of the heat unit by the introduction of the artificial gas, reducing the efficiency, will, we estimate, mean more than

2674 fifty per cent advance.

Q. Now, in giving your own experience, have you given the experience of industries generally, or is that confined to your own operations,—I refer now to the Monongahela Valley Company.

A. Yes, I should think our experience is no different from that of all other manufacturers in the glass industry, at least in the cities of Morgantown, Fairmont and Clarksburg.

Q. You referred in the former part of your testimony to the contraction of industries in Fairmont, by reason of the overrates. Let me ask you if the rates have steadily risen or have fluctuated?

A. By fluctuated, do you mean up and down?

Q. Yes sir.

A. They have not fluctuated; the increase has been gradual and persistent.

Q. Do you refer to the domestic rate or the industrial rate, or both?

A. Both.

Q. Is The Pittsburgh & West Virginia Gas supplying any portion of Fairmont, domestically or industrially, up to December 14th?

A. The Pittsburgh & West Virginia Company, we have been informed, were supplying The Monongahela Valley Traction Company with a billion feet a day and for the past two or three years,

the past three years at least, that company has been supply-
2675 ing, one industry, Owens Bottle Company direct, with gas through a pipe line laid by the Monongahela Valley Company from the line of that industry, which is the Owens Bottle Company, to the lines of The Pittsburgh & West Virginia Company, The Owens Company buying the gas direct from the Pittsburgh & West Virginia Company.

Q. Is the plant of the Owens Company within the corporate limits, or close thereto?

A. Within the corporate limits of the city, yes sir.

Q. I will ask you as to the feasibility of a plant changing from the use of one fuel back to another,—have you investigated along that line?

A. By that you mean from the use of natural gas to that of artificial gas?

Q. Yes.

A. It is quite feasible to change from one gas to the other after a plant is equipped with producers, but it is not economical, the reason being, and I am informed, and know from my own observation, that a gas furnace built for the use of the producer gas does not burn natural gas as economically as a furnace built for the use of natural gas solely, and I should think also that an industry equipped with a producer plant of any magnitude would find it inefficient and uneconomical to change from producer gas in the spring to natural gas, when the supply is abundant, generally on account of the light domestic consumption during such summer months, to natural
2676 gas, and then back again in the fall to producer gas; the reasons for this are, I think, primarily, the ultimate inefficiency of the operating forces in charge of the furnaces and the producers. Considerable knowledge and skill is required to properly operate gas producers, and considerable knowledge and skill is required to properly operate a gas furnace and these differences between the burning of natural gas and producer gas are so great that confusion would result from these changes back and forth and inefficiency naturally follow while the operating forces were acquainting themselves with the changed conditions in the gas furnaces; and the discharge in the spring, of the crew of men trained to operate producers and the employing in the fall of inexperienced men, which would probably be the result of such a practice, would entail inefficiency in operation of the producers during the period that this new crew was lear-ing how to properly operate the producer plant; and the same condition that I have mentioned as would occur in the spring, would occur in reverse or inverse order in the fall, in training the furnace operators to get away from the conditions of burning natural gas and to the conditions of burning producer gas, so that my company, at least, contemplates that after we have got
2677 our producer plant in operation, we would not give consideration to the change back and forth unless it were because of a very large saving in cost, sufficiently large to show a profit above the inefficiency and lack of good operation.

Q. Let me ask you if there have been many changes to producer

gas or to other forms of fuel by the various industries throughout the Monongahela Valley.

A. Yes, there have been quite a few, and those changes are now in contemplation, I should imagine, in all glass industries having continuous operation, not seasonal operation. I know of two cases in Morgantown.

Q. Name those plants.

A. The Mississippi Wire Glass Company have changed to producers and the Economy Tumbler Company have installed producers, or a producer.

Q. What changes in Fairmont?

A. The Owens Bottle Company have installed producers which will supply the deficiency, with which it will operate their furnace. I think they will rely on natural gas for a while for their leers and their engine plant, although they have had the good fortune and good sense to develope and independent gas supply of their own, which they have now piped to their plant. And our company contemplates the installation of producers this coming summer.

2678 Q. Now, take Clarksburg.

A. In Clarksburg, I know at least one plant that has changed from it, and that is the Rolland Company, and I think one other company, but I can't name it.

Q. There may be others that you don't know of?

A. Yes.

Q. Do you know of any others changed or contemplating a change?

A. One company at Grafton, I am told, contemplates a change in the near future.

Q. Name it.

A. The Tygarts Valley Glass Company.

Q. I believe you stated that up until the shortage of the winter 1916 and 1917, there was a fairly adequate supply of gas, domestic and industrial, in Fairmont and vicinity?

A. Yes.

Q. Could you tell us how the amount of gas now used in Fairmont, for domestic and industrial purposes, would compare with the amount used during the years preceding the first shortage?

A. The Monongahela Valley Company is not supplying as much gas, in my judgment, now as it did prior to the winter of 1916 and 1917.

2679 Q. How would you compare the amount that would be used, if all the domestic and industrial consumers in Fairmont were adequately supplied, presently, with the amount used in the year prior to that shortage, in the winter of 1916 and 1917, taking into consideration the change to other fuel that has already taken place?

A. If the Owens Company would continue to use its producer throughout the year, and taking into consideration the amount of producer gas we burn, I should think that the amount of natural gas thus not used would amount to considerably more than whatever increase there has been in domestic consumption during that period,

and that, with the producer gas we are using and the producer gas the Owens Company is using, I should say there would be a saving in the consumption of natural gas or a reduction in the consumption of natural gas of at least a million and a half feet a day, possibly more, as compared with the consumption in the year 1916.

Q. Do I understand you to mean that your estimate of the required amount of gas in Fairmont, under the circumstances given, is no greater than the amount used in the year 1916, or prior to the shortage in 1916 and 1917?

A. Yes sir.

Q. Let me ask you if the increase of the price of gas has
2680 had any substantial influence upon the amount used for domestic purposes?

A. Yes.

Q. Has that resulted in a conservation or reduction of the amount over that used during the lower rates?

A. Yes, it has resulted in greater care, of course, being used in consumption by those using it, and it *is* also resulted in some small households going to coal, on account of the saving, and on account of the shortage, which has driven small industries having boilers to the use of coal under the boilers during the winter months, all of which has had a tendency to reduce the consumption of natural gas.

Q. You take into consideration all those factors in your estimate of the amount requisite now would not exceed the consumption prior to 1916 and 1917?

A. Yes sir.

Q. Prior to the present contract between the Monongahela Valley Traction Company and the Carneigie Gas Company, I believe you stated there was shortages in the supply locally?

A. Yes sir.

Q. Were any efforts made by the Monongahela Valley Traction Company, or by any of its consumers, to require a contract of
2681 sale or purchase to the local company from any of the larger companies?

A. Yes sir.

Q. Please give, quite briefly, the situation and what took place.

A. In Fairmont?

Q. Yes sir.

A. In the year I think, 1918, a movement was started in Fairmont and in the adjacent communities in the Valley, to develop the question as to whether or not the exporting gas companies should be required, as a part of their public duty, to furnish gas to local gas companies to make up for shortages in West Virginia——

Q. Let me interrupt you there to ask if that action was preceded by any refusal on the part of the larger companies to sell to the local companies?

A. Yes sir.

Q. Suppose you state what that was.

A. I state now from information given me by the Monongahela Valley Traction Company officials, which satisfied me at the time, was that they could not, at the time from the shortages in Fairmont,

buy gas from these exporting companies in sufficient quanti-
2682 ties to take care of the demand in Fairmont, and that they had made efforts repeatedly to buy gas in sufficient quantities from the Hope Natural Gas Company and the Pittsburgh & West Virginia Company, and they could not get the amount they needed.

Q. Let me ask you further if the application made for a supply from a larger company to the local company was confined to furnishing gas in the shortage period?

A. Naturally, the demand would arise and become more persistent of shortage. Another time, when the demand was being cared for, the situation was considerably relieved. Of course the demand arose at times when shortages occurred; that is, the demand by the consumers, although the practice usually is by one company selling gas to another, to compel a given consumption annually to be taken through the year.

Q. Since the further answering of my question would lead you into matters that are more or less reflected by legal proceedings, I will simply ask you if the result of the effort was to obtain an order directing one of the larger companies to sell to the local companies.

A. At Fairmont?

Q. Yes sir.

A. Yes sir.

Q. That order had never been complied with until the
2683 injunction granted in these prece-dings?

A. No sir.

Q. Nor since?

A. No sir.

Q. Were there similar efforts at other places?

A. Yes sir.

Q. Where?

A. Morgantown.

Q. Was any such effort made at Clarksburg?

A. Such an effort was contemplated at Clarksburg. I don't believe it was undertaken. I am not fully posted as to that.

A recess was here taken until 7:30 o'clock, P. M.

2684 Supreme Court of the United States, October Term, 1919.

THE COMMONWEALTH OF PENNSYLVANIA, Complainant,

vs.

THE STATE OF WEST VIRGINIA.

THE STATE OF OHIO, Complainant,

vs.

THE STATE OF WEST VIRGINIA.

Before Levi Cooke, Esq., Commissioner.

Night Session, Tuesday, February 8, 1921.

Defendant's Testimony.

2685 Tuesday Evening, February 8, 1921.

And now, the hour of 7:30 o'clock, P. M. having arrived, hearing resumed, pursuant to adjournment.

R. T. CUNNINGHAM, resumes the stand.

Cross-examination.

By Mr. Weil:

Q. I believe you stated, Mr. Cunningham, that you have lived in Fairmont since 1894?

A. Yes sir.

Q. That is about twenty-seven years?

A. Between twenty-six and twenty-seven, yes sir.

Q. And prior to that time, prior to 1914, that you were in the coal business, I believe?

A. Employed by a coal company, yes sir.

Q. And that since 1914 you have been in the manufacturing business as a glass maker?

A. I was interested in the glass business prior to that time, but went with the glass company as an officer in 1914.

2686 Q. Now prior to 1894, the town of Fairmont was being supplied with gas, I think you stated?

A. Yes sir.

Q. What was the name of the company that supplied it prior to 1894?

A. My recollection is it was the Fairmont and Grafton Gas Company.

Q. How long did that company supply Fairmont prior to its going into or being absorbed by the Monongahela Valley Traction Company?

A. My recollection is, Mr. Weil, that the Fairmont Gas & Light Company, which purchased the Fairmont plant, acquired the plant around 1900 or 1902, I am not sure exactly.

Q. That is, the Fairmont Gas & Light Company acquired the Fairmont——

A. The franchise and plant from the other company.

Q. That is the Fairmont Natural Gas Company?

A. Yes.

Q. What was the first companies named?

A. My recollection is the Pittsburgh & West Virginia Company.

Q. I mean the first company.

A. Fairmont & Grafton Gas Company is my recollection.

Q. Now, the Fairmont & Grafton Company supplied Fair-
2687 mont with gas up to what time?

A. Up until, according to my recollection, up until the time they sold the Fairmont franchises and Fairmont distributing plant to the local company known as the Fairmont Gas & Light Company.

Q. And the Fairmont Gas & Light Company then supplied it up to what time?

A. Until about 1912 or 1913, along in there.

Q. And then it became the Monongahela Valley Traction Company?

A. The Fairmont Gas & Light Company sold its plant—well, yes, that was transferred in stock only. 1915, I think was the time when the Monongahela Valley Traction Company acquired the plant: about 1912 there was a transfer of stock to different groups——

Q. I just want to get the names of these companies.

A. Yes.

Q. Now then, going back, it was first the Fairmont—which was the first company?

A. As I recollect it, the Fairmont & Grafton Gas Company.

Q. And that was organized about what time, if you know?

A. It was doing business in 1894, when I went to Fairmont.

2688 Q. And you don't know how long it had been doing business before?

A. No sir.

Q. I suppose you know for several years?

A. It was more or less a new thing, the gas was; it had not reached all the environs of the city yet.

Q. Then the Fairmont & Grafton Gas Company was supplying gas in Fairmont in 1894?

A. That is my recollection.

Q. And it continued to supply gas under that name until what year?

A. 1900 or 1902; somewhere along there.

Q. And then it became the Fairmont——

A. The Fairmont Gas & Light Company, according to my recollection.

Q. And the Fairmont Gas & Light Company supplied Fairmont

with gas until about 1915, did it, when it was absorbed by the Monongahela Valley Traction Company?

A. Yes sir, as I recollect it.

Q. Now, where did the so-called companies have their gas territory?

A. It was in a westerly direction form Fairmont, there in the neighborhood where the local company later acquired its
2689 territory. I recall that when the local company acquired the Fairmont franchise and distributing plant, that it did not acquire the supply lines that run on through to Grafton; they had to lay a line of their own for that.

Q. And that was in what years that the local company, as you call it, acquired the franchises of the——

A. I have stated 1900 or 1902, along in there, as I recall it.

Q. Then that local company, as I understood you, only supplied the Town of Fairmont and the environment, that is correct, is it?

A. Yes sir.

Q. And where did it have its territory?

A. Just at Fairmont, towards Mannington.

Q. And did the Fairmont and Grafton Company transfer to this local company as you call it, the Fairmant Gas & Electric Company, the territories theretofore held by the Fairmont & Grafton Company?

A. My recollection is that they did not transfer any territory—any gas territory, developed territory at least,—I am not positive about that feature.

Q. Where did the Fairmont Gas & Electric Company then first get its gas with which to supply Fairmont?

A. They purchased prior to the time it took over the
2690 fields——

Q. What fields?

A. The fields I have mentioned located in a westerly direction from Fairmont.

Q. And that was a developed field at that time?

A. Partially.

Q. Do you know how many acres of territory it acquired at that time?

A. I couldn't say.

Q. Is there any reason that you know of why either the Fairmont & Grafton Gas Company or the Fairmont Gas & Electric Company could not have acquired a larger acreage, if they so desired, at that time?

A. I believe at that time they acquired what they considered a pretty big bunch of acreage, owing to the gas situation as it then existed.

Q. How many acres?

A. I don't recall.

Q. Was there any reason why it could not have acquired more if they had so desired, or had thought it were necessary?

A. I don't believe I can say whether there was any more acreage available at that time or not.

2691 Q. Why would not it be available?

A. As I recall, it purchased this block of territory from

local people there, who had gathered it, and partially developed it, and whether or not there was more available that could have been purchased, I could not say.

Q. Was there any other gas company at that time operating in that same field?

A. Fairmont & Grafton Company was there.

Q. I mean except the Fairmont & Grafton Company.

A. I can't say.

Q. Don't you know that there were not?

A. None others, supplying gas locally that I know of.

Q. Were there any companies acquiring territory in that field at that time?

A. I am not informed as to that.

Q. How many acres did it acquire at that time?

A. I don't have that information.

Q. Why do you say it was a large block?

A. Just from general comment at that time.

Q. What was considered a large block by general comment at that time?

A. I couldn't say of what that acreage consisted, or what those people considered a large block.

2692 Q. Who said it was a large block?

A. I do know at the time they raised the money, they thought it was pretty big.

Q. Who said it was a large block?

A. I don't know that I can recall that, sir.

Q. Was it anybody that had any familiarity or knowledge of the natural gas business, or just local comment of people who had not been in the natural gas business?

A. I will say it was local people who had not been in the gas business, and at that time knew but little about it; did not learn much.

Q. And that is where you got your information then that it was a large block?

A. Local situations and local conception of what would constitute a large block.

Q. By people who were not familiar with the business?

A. People who were not largely engaged in the business, yes.

Q. Was there any reason subsequently, after 1894, when you moved there, to Fairmont, that you know of, why the Fairmont Gas & Electric Company, after they acquired the property that you have mentioned, could not have acquired other and additional acreage?

2693 A. They did acquire additional acreage from time to time.

Q. How much?

A. I think at the present time they have something like around eighteen thousand acres.

Q. And could have they not acquired a larger acreage than that, if they had thought it was desirable, or had desired to acquire the same?

A. I am not informed as to that.

Q. You don't know then whether they could or not?

A. No.

Q. Do you know whether or not there were any companies in 1894 up to, let us say, 1900, that were seeking to acquire natural gas territory or acreage, in that particular section?

A. Speaking generally, from recollection, most of that country was under lease, either by oil companies or gas companies. I think mostly by oil companies, until the acreage developed whether it was gas or oil territory.

Q. What companies were those oil companies? Were they just local companies?

A. One of the companies would be the South Penn Oil Company; others might be classed as local companies.

Q. And were there not still other oil companies that were
2694 not local companies that were also acquiring acreage there?

A. Possibly.

Q. Do you know when the Hope Natural Gas Company first became interested in that field?

A. No sir.

Q. Don't you know that it was long after 1900?

A. I do not, no sir.

Q. Don't you know that it was after 1905?

A. I have no information on the subject, Mr. Weil.

Q. Don't you know that the Carnegie Natural Gas Company was not in that field until long after 1905?

A. I have no information on that. I couldn't tell you now where the Carnegie Company gets its gas.

Q. When did the Pittsburg & West Virginia Gas Company, if ever, become interested in that field?

A. Speaking from recollection, the Pittsburgh & West Virginia Gas Company is a successor to the Fairmont & Grafton Gas Company.

Q. When did it become its successor?

A. I do not know. It was after the sale of the Fairmont franchises and distributing plant.

Q. Which one do you mean, the one in Grafton or the
2695 one in Fairmont?

A. In Fairmont.

Q. How long after?

A. I couldn't tell you, sir.

Q. Don't you know that it was not until over ten years after?

A. I have no information on that, Mr. Weil.

Q. Don't you know that the Pittsburgh & West Virginia Gas Company was not organized until after 1910?

A. I do not, sir.

Q. Do you know anything about it, I mean as to the time of its organization?

A. No sir.

Q. Then as I understand you, Mr. Cunningham, in giving the names of these other companies, you did not mean to imply that on account of their operations, they prevented the Fairmont Gas & Electric Company, and subsequently the Monongahela Valley Trac-

tion Company from securing additional territory if they had so desired?

A. I don't know just what statements I made that you refer to.

Q. Well, did any of the statements that you made intend to make any such implication?

2696 A. No, sir.

Q. Now, as I understand you, the Monongahela Valley Traction Company in about the year 1915, succeeded to the property of the Fairmont Gas & Electric Company and the——

A. The Fairmong Gas & Light Company. You have been calling it the Fairmont Gas & Electric Company. The Fairmont Gas & Light Company was the first Fairmont Company.

Q. Now, the Fairmont Gas & Electric company was succeeded by the Fairmont Gas & Light Company, as I understand, or was there two of them?

A. I do not recall any Fairmont Gas & Electric Company.

Q. Now, when I stated the Fairmont Gas & Electric Company I intend- to refer to the Fairmont Gas & Light Company instead of Fairmont Gas & Electric Company.

A. That is as I understood it.

Q. Now then, the Fairmont Gas and Light Company, as I understood you, succeeded the Fairmont and Grafton Gas Company?

A. Yes sir.

Q. As to the properties in Fairmont?

A. Yes sir.

Q. And the Fairmont Gas & Light Company was succeeded ultimately, I believe you stated, about 1915, by the Monongahela

2697 Valley Traction Company?

A. Yes sir.

Q. And the Monongahela Valley Traction Company acquired, did it, any other gas company at the same time, if you know, that is supplying Fairmont or any of its environs?

A. I think not.

Q. Now then there changed hands how much territory from the old Fairmont Company?

A. I don't know exactly how much was in that transfer.

Q. They transferred to them, I suppose, all the gas territory they had?

A. A stock transfer, yes sir.

Q. And the Monongahela Valley Traction Company, you say, at the present time, holds about eighteen thousand acres?

A. Yes sir, that is my information, yes sir.

Q. Now, of that acreage, that eighteen thousand acres, which you said was westerly of Fairmont, about six to tw-leve miles, there has been drilled about five to six thousand acres I think you said?

A. Yes.

Q. Which leaves them from twelve to fourteen thousand acres?

A. More or less undeveloped, yes—no, ten to twelve thou-

2698 sand.

Q. Ten to twelve thousand acres?

A. Yes.

Q. What to you mean by more or less undeveloped? Do you mean undrilled?

A. My information is that they have not—that that has not been intensively drilled, closely drilled.

Q. How many wells have they on the five to six thousand acres?

A. I can't say as to that.

Q. Don't you know?

A. No. I don't know where the wells are located and I don't know how many producing wells they have now.

Q. Do you know of any reason why they should not drill the other ten thousand to twelve thousand acres?

A. I am not informed as to why they have not and are not doing it, no sir.

Q. Do you know how many wells they drilled in 1916, 1917, 1918, 1919 and 1920?

A. No sir, I have no information as to that.

Q. Do you know how many they have drilled in any one of those years?

A. No.

Q. Do you know how many they are drilling now?

A. No.

2699 Q. Do you know whether they are drilling any at all now?

A. They drilled in a well in November.

Q. That is the only well you have any information about, is it?

A. Yes sir.

Q. What did that do?

A. Started up a pretty good well.

Q. Do you know where it was located?

A. No.

Q. What would you call a very good well?

A. Well, it was reported about a four million feet well at first.

Q. That is four million feet a day?

A. Yes; my information is now it is not holding up.

Q. Did you ever know a gas well that did hold up to what it was reported when it first came in?

A. No. My information on gas wells is mostly what I hear.

Q. Now, Mr. Cunningham, as I understood you, this afternoon, the Fairmont Gas & Light Company was owned by local people, and there was invested therein local capital in and about Fair-

2700 mont?

A. Yes sir.

Q. And the same was true, was it not, of the Fairmont & Grafton Natural Gas Company, the predecessors of the Fairmont Gas & Light Company?

A. I am not informed as to that, Mr. Weil.

Q. The Monongahela Valley Traction Company is owned by what group of capitalists?

A. The Watson family of Fairmont, it is known as one of their enterprises.

Q. That is Senator Watson, is it?

A. Yes sir.

Q. The Monongahela Valley Traction Company is known as a Watson enterprise, is it not?

A. Yes.

Q. What does it operate besides this natural gas plant?

A. It operates traction lines, electric power plants, the gas producer plant, electric power lines.

Q. Let us be a little more specific.

A. And the gasoline station.

Q. Let us be a little more specific: What traction lines does it operate?

2701 A. It operates the traction lines in the City of Fairmont and the interurban lines between the City of Fairmont and the Town of Fairview, and the interurban line between the City of Fairmont and the Town of Mannington, and the interurban line between the City of Fairmont and the City of Clarksburg, the city lines in Clarksburg and environs, and the interurban lines between Clarksburg and Wolf Summit or Salem, and the interurban line between Clarksburg and Bridgeport and the interurban line between Clarksburg and Weston and the interurban line in Parkersburg, and the interurban line between Parkersburg and Marietta.

Q. What electric companies does it own and operate?

A. Has no subsidiary companies that I know of, but it, itself, owns and operates a large power plant just north of Fairmont at Reedsville, which is a modern electric plant; it also owns and operates——

Q. Just a moment: Where does it supply electric power or light?

A. It supplies electric light to the City of Fairmont and environs and supplies power to enterprises all around Fairmont, and between Fairmont and Clarksburg—and around Clarksburg, that is, power.

Q. Yes. Now then, what was the other activity you said it was engaged in?

2702 A. The operation of a gas producer plant at Fairmont.

Q. That is at Fairmont?

A. Yes sir.

Q. What is that, how big a plant is it?

A. That is an experimental plant building adjacent to the Monongha Glass Company plant, and supplies all it makes, except that part they use in their natural gas line, to Monongah Glass Company, and a very small part to another enterprise close by. That is the experimental plant I mentioned this afternoon.

Q. And that producer gas plant manufactures gas from coal, does it?

A. Yes sir.

Q. And as you say, supplies your company?

A. A part of our plant, as I testified this afternoon.

Q. And at what price do they supply you with producer gas, or is it supplied with the natural gas?

A. It supplies producer gas in a direct way at the price of the equivalent of natural gas at fourteen cents up to July the first last at which time we proposed after that, paying for it at a price equiva-

lent to natural gas at twenty-five cents; has been no agreement reached on that.

Q. In order to ascertain that equivalent, how many B. T.
2703 U.'s do you figure in the producer gas?

A. That is a local question yet between us has not been adjusted.

Q. About how many would you say is claimed by you and how many is claimed by them?

A. A good many elements enter into that, but for the purpose of making a statement, I will say it requires about eight volumes of the producer gas at a fixed temperature, to equal one volume of natural gas.

Q. Then you mean to tell us you were paying—what was your price for natural gas?

A. The natural gas price at this time is thirty cents a thousand cubic feet, during the five winter months, and twenty-six cents a thousand cubic feet during the other seven months.

Q. Well, if it only had one-eighth of the B. T. U.'s of the natural gas, that would be at the rate of two dollars and eight cents, would not it, for natural gas, if natural gas is twenty-six cents?

A. I don't know just what you mean, but I will state this: That in purchasing this producer gas, we were each to pay for the equivalent number of heat units that we would get from natural gas at fourteen cents, which is at the rate of a little less than two cents
2704 per thousand cubic feet for the producer gas.

Q. I don't understand you exactly. Will you explain a little more in detail?

A. The understanding between us is we are to have for fourteen cents as many heat units delivered through producer gas as we would get through natural gas at fourteen cents per thousand cubic feet, or we are to have as many heat units for fourteen cents gotten through producer gas as we would get for a thousand cubic feet of natural gas at fourteen cents.

Q. And how many B. T. U.'s of heat units you figure you were getting out of natural gas?

A. Natural gas, in Fairmont, yields anywhere from 1,075 to 1,150.

Q. Then you were paying at, according to the statement you just made, for the producer gas, at the rate of about a little over 1.4 cents a thousand feet for producer gas?

A. No, it is nearer two cents.

Q. Well, somewhere between that and two cents?

A. Figuring eight volumes for one; figuring seven volum-s for one would be exactly two cents; but producer gas fluctuates very much in heat units from year to year so we made careful measurements from day to day to get these averages.

2705 Q. Is that producer gas delivered to you cold or delivered to you hot?

A. It is delivered to us cold; not as cold as we would like to have it sometimes, but supposed to be cold.

Q. *By* not as cold as you would like to have it——

A. Because the higher in temperature it is, the more water vapor

it carries. If it carries an excess of water vapor, it makes it inefficient because we have to evaporate that water before burning the gas.

Q. You burn it, do you, in mixture with the natural gas?

A. Not always; we introduce natural gas directly into the furnace in which we are burning producer gas when we find it necessary to supplement the producer gas.

Q. As a matter of fact, you know, do you not, that producer gas with one hundred and twenty-five B. T. U.'s, or less, will not light when cold.

A. I do not know that, Mr. Weil.

Q. What is the population, did you say, of Fairmont at the present time?

A. Eighteen thousand, approximately.

Q. And when you gave us that estimate of about ten per cent of the dwelling houses were constructed with heating, hot water
2706 or steam heating furnaces, that was merely a rough estimate, was it not?

A. As I stated it, yes sir.

Q. Do you know how many houses there are in the City of Fairmont?

A. I do not, exactly.

Q. Do you know how many houses are fitted up with such furnaces?

A. Not exactly, no sir.

Q. Would you say there were more than twenty-five houses in the town that were fitted up with such furnaces?

A. Yes sir.

Q. From what do you make that statement, from what information?

A. I have personal knowledge of that many or more, and I was estimating that from the character of the houses, as I knew them, the size and character.

Q. Don't you know, as a matter of fact, in cities of three and four times the population of Fairmont, that an average better class of dwelling houses than would be in the Town of Fairmont, that there is not ten per cent of the dwelling houses that are fitted with hot water or steam or hot air furnaces?

2707 A. I do not, no sir.

Q. Have you any basis then upon which you make your calculation of ten per cent, or is it practically a rough estimate or guess?

A. Well, when I made the statement, I stated it was an estimate.

Q. You have no data then upon which to base the estimate?

A. No sir, no data, no sir.

Q. From what sources did you get that information that even those houses that were heated with hot water or steam, or hot air furnaces, that in order to burn coal, they would have to have larger flues and the chimneys would have to be reconstructed?

A. We have just been going through a spasm of agitation growing out of an application by the Monongahela Valley Traction Com-

pany for a large increase in its rates, agitation caused by public statements of said traction company that it would not have natural gas for housekeeping purposes, and calling upon people to prepare themselves to use a substitute for natural gas in the heating of their houses. This rate applied for was so large that public protest arose and mass meetings were held. Information was gathered, an
2708 attempt to get this information together, hearings have been held before the Public Service Commission of West Virginia, at which this information was more or less brought out, and my source of information is what I gathered from the conversations I heard and reports made in newspapers as to what the situation was in Fairmont; it was quite general talk that this condition exists. I know I was much surprised to find I was one of the victims who would have to reconstruct the chimneys.

Q. Did you obtain that information from this agitation and from Sand Hill oratory, is that correct?

A. The meetings were held in the court house. They were not Sand Hill meetings.

Q. So much the worse then. Might have been more accurate in their statements. You told us, Mr. Cunningham, that immediately after the shortage in 1916 and 1917 by which so many plants were compelled to shut down for a period of substantially sixty days or something like that, that you had great trouble in getting skilled labor. Don't you know, as a matter of fact, that in every industrial center in the United States at that same period, and for a year afterwards, there was trouble in getting skilled labor?

A. Yes sir.

Q. There was a shortage of skilled labor?

2709 A. Yes sir.

Q. And that skilled labor was being employed by the government, and that there was scarcely a plant operating anywhere in the United States that could get or had enough skilled labor?

A. Yes sir.

Q. Why do you attribute to this shortage of gas the shortage of skilled labor entirely?

A. In my testimony, I stated, that a large number, a comparitively large number of our people left us at that time and went to other glass plants where they could get employment more constantly than we could give them at that time, and since that time we have had difficulty in getting workmen, and the men we employed would leave us because of the uncertainty of our being compelled to cease operations during the cold months.

Q. As long as you were getting producer gas, why could you not operate continuously?

A. We were not getting producer gas at that time, but I will answer your question and say in the plant we are burning producer gas, we do not employ that same class of skilled labor; that furnace is operated by automatic machines, whereas our furnaces in which we burn natural gas are operated by hand workmen; and that
2710 is the kind of labor we are short of and have been short of since 1917, a part of which shortage I will admit grew out

of the war, but the greater part of it through our uncertainty of operations and through the lack of confidence of the workmen that we would be able to operate continuously.

Q. These producers then that you say you are going to build for your own use, are they not for the purpose of supplying your whole plant, or only for a part of it?

A. A part of it.

Q. You do not intend to use the producer gas then for the same purposes as you now use natural gas?

A. Yes, in the plant in which we propose to supply producer gas, but, as I testified, we do not propose at this time to put producers at our Number Four and Number Five plants.

Q. Now, were you connected with any of these companies, as stockholder or officer, in either the Fairmont Gas & Light Company or the Monongahela Valley Traction Company?

A. I have some stock in the Monongahela Valley Traction Company, yes sir.

Q. Did you have any in the Fairmont Gas & Light Company?

2711 A. Yes sir.

Q. When it was absorbed by the Traction Company?

A. Yes sir.

Q. Were you an officer of the Gas & Light Company?

A. No sir.

Q. At what price was the Fairmont Gas & Light Company turned over to the Monongahela Valley Traction Company?

A. I can't tell you exactly. It was exchange of stock and part cash.

Q. And about what was the price, substantially?

A. Based on the then market value of their stock, and including cash, my recollection is around a million, six hundred thousand.

Q. Wasn't it nearer three or four million?

A. No, not as I recollect it, no sir.

Q. Leaving out the price at which the stock was selling, as you say, was not the par of the Monongahela Valley Traction Company stock at par which you received for the plant, all the stock, as the case may be, of the Fairmont Gas & Electric Company, somewhere in the neighborhood of three or four millions of dollars?

A. No, not as I recall it, but I can't recall the basis of exchange at this time.

2712 Q. How long before that had it been that the Fairmont Gas & Electric Company had offered its whole property for sale for less than a million dollars, nine hundred thousand dollars, substantially?

A. I have no recollection of any such offer.

Q. Have you not been advised it had been offered for sale to one of the other gas companies at that price, shortly before that?

A. No, my holdings in it was so insignificant that I was not taken into consideration; I was not consulted.

Q. I presume that is the reason you have not any more definite recollection as to just the rate of exchange?

A. Yes, because I was not enough interested.

Q. Has the Monongahela Valley Traction Company been paying regular dividends since its organization?

A. No.

Q. When did it stop?

A. I don't know exactly. They paid dividends,—I am referring now to the common stock,—they paid dividends for a period on their common stock, stopping sometime three or four years ago,—three years ago, possibly.

Q. They paid dividends from 1912 or '13 to 1917 or 1918, you would say?

2713 A. No, I would not say they paid them from 1912. I don't know that they did. I don't believe they did.

Q. Didn't they pay dividends from the time they took over these plants?

A. I can't say as to that. I don't believe, however, that they did. The dividends paid on the common stock was not a very long lived affair.

Q. How much is the capital stock of the Monongahela Valley Traction Company?

A. I can't tell you those figures.

Q. How much preferred stock?

A. I don't know.

Q. And how much common stock?

A. I don't know.

Q. How much bonds have they out?

A. They have some bonds out, but I don't know how many. I take very little interest in the affairs of that company.

Q. You don't know then what its fixed charges are?

A. No sir.

Q. Either upon its preferred stock or its bonds?

A. No sir, the preferred stock is now paying I think six per cent.

Q. In using producer gas, do you mix it with natural gas, or do you use it alone?

2714 A. We use it alone where it is rich enough to perform its function; when it is not rich enough to do that, we introduce natural gas in the furnaces directly, but do not mix it with producer gas.

Q. You only use the natural gas then for the purpose of heating your furnace so the producer gas can be used, is that it?

A. No; the producer gas is low in heat units; it will not bring the furnace to high enough heat, and you have to supplement it by the use of natural gas.

Q. You use the two together at the same time?

A. Yes at occasional periods, but not always.

Q. How many units does your producer gas have to contain before you consider it rich enough to be used along?

A. We get along nicely with it if it runs one hundred thirty at a temperature of about one hundred.

Q. A hundred or—a temperature of about a hundred?

A. A hundred or below.

Q. Have you ever tried the use of producer gas mixed with natural gas, both producing together at the same time?

A. Yes, we are doing that, not through any choice of our own, however. The gas company is introducing a small percentage of producer gas in the natural gas lines, and mixing them.

2715 Q. Why didn't you do it with this producer gas that you obtained in the manner which you described?

A. I don't believe it would be practical to introduce natural gas in very large quantities into our generators.

Q. You said until 1916 or 1917, there was an adequate supply of natural gas at Fairmont?

A. We considered it so; there were momentary interruptions.

Q. Yes, there always are with every gas company; but you considered you had an adequate supply up to the years about 1916 or 1917, of natural gas?

A. Yes sir.

Q. And the Fairmont Gas & Light Company at that time had been transferred to the Monongahela Valley Traction Company from four to five years?

A. Some one or two years.

Q. You said the transfer was in 1912 or 1913, as I understood you?

A. 1915.

Q. The transfer was in 1915?

A. As I testified, yes sir.

Q. I understood you to say in 1912 or '13. I may have

2716 been mistaken, however, in the date.

A. My recollection, it was in 1915, or thereabout.

Q. And that was only one or two years after it went into the Monongahela Valley Traction Company, before this shortage occurred, according to your best recollection?

A. Yes. And we had extraordinarily cold weather that winter, if you recall.

Q. That of course added to the shortage, no doubt, in 1916 and 1917. Now then, you said in 1918 the movement started to find if the exporting companies could not be compelled to supply local industries and so forth, or local gas companies?

A. Thereabouts, yes sir.

Q. And you were interested in that movement, were you not, personally?

A. More or less, yes sir.

Q. Particularly more, were you not?

A. Possibly.

Q. And did you at the same time make any effort to ascertain why it was that the Monongahela Valley Traction Company were not drilling their territory?

A. Yes sir.

Q. Did you ascertain the facts with reference to that?

2717 A. I ascertained, yes, what we accepted as facts.

Q. Did you find out how many wells they were drilling or had been drilling?

A. I think they always recounted those things to us when we went in to complain, yes sir.

Q. Well, how many were they?

A. I don't recall now.

Q. Don't you know that they had not drilled but a very few wells from the time they acquired possession of this plant up to 1918?

A. My information is just the contrary to that, Mr. Weil. I would say right now that I think they satisfied us that their efforts were as much as we could expect up until the War period. They laid lines out in other fields and went to great lengths to try to get gas.

Q. They have not drilled up their developed territory, have they, and have not drilled it up to the present time?

A. My testimony states that I am informed there is still undeveloped acreages there.

Q. Don't you know, as a matter of fact, they have a developed acreage that would be sufficient for the location of between three and four hundred wells?

A. O—I don't know that.

2718 Q. Did you ever have the territory examined by an oil or gas expert?

A. No sir.

Q. Did you ever have the so-called undeveloped territory examined?

A. No sir.

Q. The wells that have been drilled recently, I think you testified that the well came in at about four million feet, or was reported about four million feet a day?

A. Yes.

Q. Do you know how long they have been carrying this undrilled acreage?

A. No sir.

Q. Do you know what they pay a year to carry that twelve thousand acres undrilled?

A. No sir.

Q. Don't you know that if they would surrender that acreage to other operators they would agree to take that acreage and drill wells thereon and sell the gas to the Monongahela Valley Traction Company, and that proposals of that kind have been made to them?

A. I do not know that, no sir.

Q. Don't you know that the Owens Bottle Works now ob-

2719 tain their own gas supply to a very considerable extent?

A. Yes sir.

Q. And that they obtained their acreage of leases within a comparatively few years?

A. I don't know when they obtained their leases. I know their operations were not extended farther back, according to my information, than possibly three to four years.

Q. Don't you know they began their operations immediately after they secured their leaseholds?

A. I have no information on that.

Q. Is there any reason why the Monongahela Valley Traction Company should not have secured that same acreage, if they had wanted to?

A. I don't know that, no sir.

Q. How much gas is the Owens Bottle Works obtaining, if you know?

A. Approximately two million feet.

Q. A day?

A. Yes.

Q. How many wells did they drill?

A. I do not know.

Q. How long have they had that production?

A. I don't know that. I know they just recently brought it into their plant; prior to that, I am informed they were selling
2720 it to the Traction Company, as much of it as was contiguous to their lines.

Q. But have you any information as to the cost of drilling a gas well in that territory?

A. No sir.

Q. Do you know that it costs approximately from ten to thirteen thousand dollars a well?

A. I have had that statement made to me, yes sir, and as high as twenty thousand dollars, I have had that statement made to me.

Q. Yes, some wells cost that, but the average well will cost from ten to fifteen thousand dollars in that territory at the present time.

A. I do not know. I don't know what it costs.

Q. Do you know what the present capital stock of the Monongahela Valley Traction Company is?

A. No sir.

Q. To drill three hundred wells upon that territory, at from twelve to fifteen thousand dollars a well, would cost from three million, six hundred thousand dollars to four million, five hundred thousand dollars, would it not?

A. Based on those figures the calculation would probably disclose that result, yes sir.

2721 Q. Is that not some intimation to you of why the Monongahela Valley Traction Company did not drill this territory?

A. They made no secret that it was too costly for them to operate; they could not afford to do it, time and again when they were notifying us they were going to raise the rates.

Redirect examination.

By Mr. Steptoe:

Q. What were the facts given you by the Monongahela Valley Traction Company as to the reasons for them not developing fully?

A. The lack of income in the gas department.

Q. You referred to the Traction Company satisfying its consumers to the effect they were trying to buy gas in the field, is that correct, and by laying a new line?

A. Yes, they laid quite an extensive line—I don't know just how long it was—into what was known at the time as the Logansport field, in which some large wells were drilled; it proved, however, to be very restricted territory and the encroachment into that field was an expense rather than an investment.

Q. At the present time, what is the situation with reference
2722 to that alleged undeveloped territory?

A. I can't say, Mr. Steptoe, just what the situation is there.

Q. Do I understand you to say that there is from ten to twelve thousand undeveloped in the sense of undrilled territory?

A. No, I don't know to what extent they have drilled in that territory. I only know that I have heard statements made that there was some such acreage more or less undeveloped; why it has not been developed, I do not know, and to what extent it has been developed, I do not know.

Q. And do you know the character of the territory as to whether it is good, bad or indifferent?

A. I do not.

Q. Did you mean to leave the impression, in answer to Mr. Weil's question, that the one well producing at its inception something like four million feet, was the only well that had been drilled by the Traction Company?

A. No, I did not. I merely mentioned that one well, which they considered more or less of a freak at the time, because it is the only well I have knowledge of recently having been drilled in by them.

Q. And I suppose there was some publicity to the fact of
2723 such a well being drilled in and it attracted your attention?

A. Yes, it attracted my attention particularly because they were having a hearing before the Public Service Commission at Fairmont in the rate case.

Q. You were examined rather extensively in reference to the financial condition of the Monongahela Valley Traction Company. Let me ask you if you know what its common stock is quoted at on the market?

A. Approximately nine, eight or nine dollars a share.

Q. What is its par value?

A. Twenty-five.

Q. I think there is possibly a little confusion in your answers on cross examination with reference to the several companies at Fairmont. You were asked about the ability of the local company at Fairmont to acquire territory during the period from 1894 to 1900 or 1902, when the Fairmont Gas & Light Company took over the local franchises and distributing plant. Prior to that time, was the Fairmont Gas & Light Company acquiring territory, or in existence?

A. Prior to 1902?

Q. Yes sir, when it took over the local plant?

A. My information is that they had organized a company
2724 and made application for a franchise in Fairmont, and were taking contracts from consumers of the then existing company.

Q. That is, the Fairmont & Grafton Company?

A. Yes sir, for the purpose of entering into competition with them, and the result of those activities a trade was agreed upon and reached between the two companies; and that my information is that before seeking contracts to furnish gas, they had acquired some territory.

Q. The Fairmont Gas & Light Company had not been in existence very long before that?

A. No.

Q. Now then, the territory acquired by the Fairmont & Grafton Gas Company up to the time of its sale of the Fairmont plant, what became of that?

A. My information is that they continued to supply the Grafton district from that acreage.

Q. They kept the territory?

A. That is my information and recollection, yes sir.

Q. Did you ever hear of the Mountain State Gas Company?

A. Not until this afternoon, no sir.

Q. Do you mean to be understood as saying that there were other gas companies doing business in Marion County prior to 1902, other than the ones you mentioned?

2725 A. No sir.

Q. Do you know whether or not the South Penn Oil Company that you mentioned held any extensive acreage?

A. My information is that they were holding quite an extensive acreage, yes sir.

Q. In the early days?

A. Yes.

Q. Do you know to what company that acreage passed in so far as it is gas territory?

A. My information is that when the South Penn Oil Company drilled a well that turned out to be a gas well, it was turned over to Hope Natural Gas Company.

Q. Were both of those companies owned by the same interests?

A. That has been my information, yes sir.

Q. And you were cross examined somewhat extensively as to the origin of the Pittsburgh & West Virginia Gas Company and when it was organized. I hand you here what purports to be a certified copy of the charter of the Fairmont & Grafton Gas Company, and will ask you to look at that and give us the date of that charter issue.

A. This seems to be a copy of the certificate of incorpora-

2726 tion of the Fairmont and Grafton Gas Company, and the certificate is signed by William E. Chilton, Secretary of State, and dated the 12th day of March, 1894.

Q. Examine the next certificate, to which I call your attention, and state what is the change of name thereby authorized?

A. This seems to be a certificate issued by Stuart F. Reed, Secretary of State of the State of West Virginia, changing the name of a corporation from Fairmont & Grafton Gas Company, its present name, to the Pittsburgh & West Virginia Gas Company, by which latter name it shall hereafter be known.

Q. And what is the date of that?
A. The 22nd day of October, 1913.
Q. You have referred to two Secretaries of State. Are those both Secretaries of State for the State of West Virginia at different periods?
A. Yes, sir.
Q. So that the Fairmont & Grafton Gas Company and the Pittsburgh & West Virginia Gas Company, if those certificates are correct, are one and the same company under a change of name?
A. Yes sir, it seems so.

2727 Recross-examination.

By Mr. Weil:

Q. Mr. Cunningham reverting to that four million feet gas well, which seems to disturb our friend, do you know how long they had acquired the lease on which that well was drilled?
A. No sir.
Q. Do you know how many other wells had been drilled anywhere adjacent to that well?
A. No sir.
Q. Do you know that the Monongahela Valley Traction Company are paying not only rentals, or instead of rentals on a large block of leases that they hold, they are paying gas well rentals the same as if gas wells had been drilled, in order to hold the leases?
A. I do not know that, no sir.
Q. Don't you know that a movement was started among a large number of the lessors, or among a considerable number of the lessors, to compel them, the Monongahela Valley Traction Company, to drill the territory, because it had been developed by operation upon adjacent farms, or territory, and that in order to satisfy them, and enable them to hold leases, they agreed to pay them the same
2728 amount as if a well had been drilled, in the shape of a gas well rental, instead of the rental at so much per acre until a well should be drilled?
A. I have no such information, no sir.
Q. Have you any information as to when the parties who acquired the interest in the Fairmont & Grafton Gas Company, and changed the name to the Pittsburgh & West Virginia Gas Company, acquired their interest in the company?
A. No sir.
Q. The original stockholders of the Fairmont and Grafton Gas Company, as shown by the papers which were shown to you by counsel for the respondent, James W. Rolland, Jacob J. Gosser, William J. McConnel, Thomas B. Gregory and Edward M. Grant, were they not?
A. I do not know, sir.
Q. Then you have no information as to when the Philadelphia Company became the owner of the stock of the Fairmont & Grafton Natural Gas Company?
A. No sir.

An adjournment was here taken until Wednesday, February 9, 1921, at 9:30 o'clock, A. M.

2729 Supreme Court of the United States, October Term, 1919.

THE COMMONWEALTH OF PENNSYLVANIA, Complainant,

vs.

THE STATE OF WEST VIRGINIA.

THE STATE OF OHIO, Complainant,

vs.

THE STATE OF WEST VIRGINIA.

Before Levi Cooke, Esq., Commissioner.

Morning Session, Wednesday, February 9, 1921.

Defendant's Testimony.

2730 February 9th, 1921.

And now, the hour of nine thirty, a. m., having arrived, hearing was resumed pursuant to adjournment.

CHARLES M. SNAITH, called as a witness, having been first duly sworn, testified as follows:

Mr. Commissioner: Let the record show the following subpœna and return.

THE UNITED STATES OF AMERICA, *ss:*

[Seal of the Supreme Court of the United States.]

The President of the United States of America to the Marshal of the Northern District of West Virginia, Greeting:

We command you to summon Charles M. Snaith and George W. Wilson, if they be found in your Bailiwick, to be and appear before Levi Cooke, Esquire, Commissioner appointed by the Supreme Court of the United States, at Clarksburg, West Virginia, on the 8th day of February, 1921, to give evidence on behalf of the defendant in certain causes now pending in said Court wherein The State of Ohio and The Commonwealth of Pennsylvania are complainants, and The State of West Virginia is defendant.

2731 Hereof fail not, and of this writ make legal service and due return.

Witness the Honorable Edward D. White, Chief Justice of the United States, this 28th day of January, A. D. 1921, and in the 145th year of the Independence of the United States of America.

Attest:

JAMES D. MAHER,
Clerk of the Supreme Court of the United States.

(*Endorsement of Return.*)

UNITED STATES OF AMERICA,
Northern District of West Virginia, ss:

Received this writ at Fairmont, West Virginia, on February 5th, 1921, and I hereby certify and return that on the same date, I executed the same upon the within named Charles M. Snaith and George W. Wilson, by delivering to each of them in person a duly certified copy thereof at Weston, within said Northern District of West Virginia.

C. E. SMITH,
U. S. Marshal for the Northern District of West Virginia,
By HOWARD ADAMS,
Deputy.

2732 Direct examination.

By Mr. Steptoe:

Q. Mr. Snaith please give us your age.
A. Fifty-six.
Q. Where do you reside?
A. Weston, West Virginia.
Q. Is that in Lewis County?
A. In Lewis County, West Virginia.
Q. How long have you been a resident of Weston and Lewis County?
A. About twenty-two years.
Q. What is your present business?
A. Production of oil and gas.
Q. How long have you been engaged in that business?
A. About ten years.
Q. Prior to that time in what business were you?
A. In the business of drilling oil and gas wells.
Q. And how long in that?
A. All told about twenty-five or twenty-eight years.
Q. Please state where your drilling of wells was done, in a general way. You need not generally go into the particulars of each well?

2733 A. In Lewis, Gilmer and Braxton Counties, West Virginia.
Q. Prior to your going into the business on your own behalf, for whom did you drill wells?
A. I drilled for the Hope Natural Gas Company, South Penn Oil Company, Crude Oil Company and several independent producers.

Q. I take it then that you were the owner and operator of one or more strings of tools in your drilling days?

A. Yes sir.

Q. Now when was it you started in business for yourself? Do I correctly understand that was about ten years ago, I mean producing on your own behalf?

A. Yes, about ten years ago.

Q. Where have you held your leases and territory from which you drilled and produced for yourself?

A. Principally in Lewis County.

Q. Where else?

A. In Braxton and Gilmer.

Q. How much acreage do you own and operate?

A. I own no territory absolutely alone. I am associated with other parties.

Q. With whom are those associations?

A. We have one lease in Lewis County of thirteen hundred and seventy-eight acres, gas territory.

2734 Q. When you say "We have thirteen hundred acres" whom do you mean?

A. George W. Wilson is interested with me and Robert L. Bland of Weston, and George M. Kittle of Philippi.

Q. Mr. Wilson and Mr. Bland reside at Weston?

A. They do.

Q. What other territory are you operating, either as sole owner or in association with others?

A. I am producing gas from the Smith farm, two and one-half miles from Weston, of about two hundred acres.

Mr. Weil: Is that in Lewis County?

A. It is in Lewis County.

Q. Anywhere else?

A. Producing oil from three farms on Sand Fork in Gilmer County.

Q. How much acreage do you hold there?

A. About two hundred and sixty acres.

Q. And where else?

A. That is all.

Q. You spoke a while ago of having operated in Braxton County. Do you hold any territory in that county now?

A. The lease of thirteen hundred and seventy-eight acres lays in Lewis, Braxton and Gilmer.

2735 Q. In the course of your experience in drilling for others, and in operating on your own behalf, have you had occasion to look for leases and become more or less familiar with the oil and gas territory of Lewis, Braxton and Gilmer Counties?

A. I have.

Q. Are there many operators for oil and gas in those counties?

A. Several.

Q. Are there any large companies doing business and holding territory in those counties, and having pipe line systems for the transportation of natural gas?

A. There is.

Q. I wish you would name the principal companies?

A. Hope Natural Gas Company, Reserve Gas Company, Pittsburgh & West Virginia Gas Company, West Virginia Central Gas Company. I think those are the principal ones.

Q. Do you know whether or not the Carnegie Natural Gas Company holds any territory and production in those counties?

A. I understand they do. I don't know of any territory they own.

Q. Each of these companies, as I understand you, have pipe line systems for the transportation and marketing of natural gas?

2736 A. They have.

Q. Now, how long have they been operating in those counties?

A. Why I think about fifteen years.

Q. Would you be prepared to say that they went in there before or after that time, or is fifteen years ago an estimate?

A. I could not state when they went in.

Q. You do know that they were there some fifteen years ago.

A. I think they were there fifteen years ago.

Q. What have you to say with reference to the extent of the gas territory held in those counties by the companies you have mentioned? Is the acreage large?

A. Their acreage is large.

Q. Is there much gas territory that you might call approved gas territory, available to be taken up now?

A. None that I know of.

Q. How long since has there been any approved territory or good territory available to be taken up?

A. Oh, there has been no available territory for the last six or seven years that I know of.

Q. How about prior to that time?

A. Prior to that time there was some.

Q. Well, in any considerable blocks, or in the way of scattered pieces?

2737 A. Just scattered pieces.

Q. Well, how long would you say it has been since any considerable body of territory, approved from the standpoint of gas, could be had in these counties? Take Lewis County alone first.

A. Possibly ten or twelve years.

Q. Would your answer apply to Gilmer and Braxton?

A. Well, I believe there has been territory available in Gilmer County later than that.

Q. And in Braxton?

A. And in Braxton.

Q. Are there many people in those three counties engaged in the production of gas having no pipe lines?

A. There is a few people, not very many.

Q. That is people like yourself and your several associates?

A. Yes sir.

Q. You have no pipe line systems have you?

A. No.

Q. How do you market your gas?

A. We sell the gas to the Hope Natural Gas Company from the Watters heirs lease; and from the Smith farm we sell the gas to the Pittsburgh & West Virginia.

Q. Now, by the Watters heirs lease, do you mean the thirteen hundred acres you referred to?

2738 A. Thirteen hundred and seventy-eight acres.

Q. And, by the Smith lease, you mean the two hundred acre tract close to Weston?

A. Close to Weston.

Q. What market have you and the other independent producers for your gas. By the term, independent producers, I mean people in like situation with you that have no pipe line or pipe line systems?

A. Why, we have got to depend on selling our gas to those large companies.

Q. You mean by that the ones you have named, the Hope, Reserve, Pittsburgh & West Virginia, and West Virginia Central?

A. Yes sir.

Q. Are the prices and terms of sale fixed by agreement?

A. They are.

Q. They are not subject to regulation or control by the Public Service Commission of West Virginia in any way, are they?

A. Not that I know of.

Q. Never have been?

A. No, never have been.

Q. Now, when you say that you have to sell your gas, or the only market you have for your gas is the pipe line companies

2739 at the present time, let me ask you if that is confined to the present time; if that has been true in the past?

A. It has.

Q. That has always been the situation?

A. Yes.

Q. Now is your situation, as an independent producer, different from that of others in the field who produce and have no market line?

A. I think not.

Q. They have to sell in like way to the pipe line companies, do they?

A. I believe they do, with very few exceptions.

Q. There may be exceptions where their production is close to a city or something of that sort?

A. Yes sir.

Q. But, if I understand you correctly, where the independent producer's production is, in the field, his only market is the pipe line company?

A. Yes sir.

Q. Let me ask you if you could market your gas at Weston now, or in the past years?

A. We could if we had a franchise and went to the expense of laying the pipe line to Weston.

2740 Q. Well do you know what price is being paid for gas in the City of Weston at the present time?

A. I do.

Q. What is it?

A. Twenty-eight cents a thousand.

Q. What are you getting now under your contract with the Hope Company?

A. Twelve cents.

Q. Would it be feasible or practicable for you to pipe the gas from your production to Weston?

A. It would not.

Q. Why?

A. Well, one reason it would be very expensive, and the other reason, I don't believe we have got gas enough to furnish the town of Weston.

Q. Well, would the expense be out of proportion to your holdings?

A. I think so.

Q. Let me ask you this, in case you did install a pipe line from your Watters Heirs lease running to Weston, the gas would transport itself for that distance of its own natural pressure through the ordinary size pipe line?

A. Some of it would go through.

Q. Would any considerable amount be delivered under natural pressure?

2741 A. I believe it would, at that distance.

Q. You believe it could be done without the installation of a pump station?

A. Not practical. It would not be practical to put it in without pumps.

Q. Is the size of your lease and holdings such as to justify the installation of a pump station?

A. It would not.

Q. Now, with reference to Weston, that is, I believe, the largest city or town in Lewis County, is it not?

A. It is.

Q. What company is supplying it?

A. The Keener Natural Gas & Oil Company, I think it is called, or Oil & Fuel Company.

Q. Do you know where that company gets its supply from?

A. It gets its supply in Lewis County at Freemans Creek.

Q. Well, be a little more full in your answer. From what company and what territory?

A. Well——

Q. Whether this came from their own wells, the Keener Company?

A. I am not familiar with the Keener Company, whether they get their gas from their own wells or the Carbon Company. I
2742 understand there is a carbon company mixed up in their system some way. I am not familiar with their holdings.

Q. Well, do you know whether or not it is buying the production of that carbon company?

A. They buy some production from that carbon company, but I don't know whether they buy it all or not.

Q. What carbon company is that?

A. I don't know for sure, but I understand it is the Columbian.

Q. Do you know whether the Columbian Carbon Company is now manufacturing carbon?

A. I do not.

Q. Is there any demand for natural gas in Weston at the present time, in excess of the supply of the local company, do you know?

A. There is a demand all the time for a little more gas. Nobody seems to have enough.

Q. Do you refer to domestic service?

A. Domestic service.

Q. Or both?

A. I don't know anything about the other service.

Q. How long has that condition maintained?

A. About two years.

Q. Is the local company supplying Weston able to meet the demand and supply of the amount needed for the comfort of
2743 the domestic consumers?

A. They have not met the demands adequately for the last two years.

Q. This winter has been an unusual mild winter, has it not?

A. It has.

Q. Has there been the same situation this winter?

A. Same situation; shortage of gas, and all want supplied.

Q. Do do you know whether the local company supplying Weston has, in the past, ever purchased from any of the larger companies you mentioned?

A. I understood they did purchase from the Hope Natural Gas Company some time ago.

Q. Do you know whether that local company at the present time has connections with the Hope Natural Gas Company?

A. I don't think they have.

Q. But there was such a physical connection?

A. At one time.

Q. Do you know where that connection was?

A. I do not.

Q. Do you know whether the larger companies that you have mentioned hold any acreage in close proximity to the City of Weston?

2744 A. I do not.

Q. Do you have any information touching the acreage or holdings of the company supplying Weston?

A. I do not.

Q. Well, will any of the pipe line companies transport the gas of the independent producer to market for him?

A. Not that I know of.

Q. Have you ever known of any such instance?

A. I have not.

Q. They transport only the gas after they have produced it?

A. That is my understanding.

Q. Do you know whether or not they will exchange gas? I mean in this sense: Like and oil company takes oil and later delivers an

equivalent amount of the same grade of oil to such person as the producer sells to?

A. Not that I know of.

Q. Have you ever known of an instance of an independent producer being able to deliver gas to a pipe line company and have the pipe line company deliver an equal amount, less transportation charges, to some customer in a city or town?

A. I do not.

Q. Now is that true now only, or has it been true during your experience in the gas business?

A. That has been my experience all the time.

2745 Q. I want to ask you about the counties you have mentioned with respect to being approved gas territory. Take Lewis County for example. How does Lewis County compare with other counties with respect to being gas territory now and in the past?

A. Why a large portion of Lewis County has been very good gas territory.

Q. Well, as a matter of fact Lewis County has been and is one of the principal producing counties, is it not?

A. Oh, yes.

Q. Well known?

A. Yes.

Q. To what extent has it been drilled up?

A. I believe all the gas territory in Lewis County has been practically drilled.

Q. If there is any considerable amount of undrilled or reserve territory, is it loose, or held under lease?

A. It is practically all under lease.

Q. And by whom?

A. Principally by those large companies.

Q. I want to ask you about the West Virginia Central Gas Company. It has considerable holdings in Lewis County?

A. Yes sir, it has.

Q. Most of its holdings are in that county?

2746 A. Well I believe their principal holdings are in Lewis County.

Q. Is it pretty well drilled up?

A. Yes, pretty well drilled.

Q. You don't know of any reserve territory that it has?

A. I do not.

Cross-examination.

By Mr. Weil:

Q. Mr. Snaith, you say you went into the producing business about ten years ago?

A. I did.

Q. And prior to that time you had been what is called a contractor and driller all that time I suppose, a driller?

A. Driller and dresser.

Q. A driller, and prior to that a tool dresser, and prior to that a roust about?

A. I never roust a-boutted any. I only tool dressed.

Q. You went through the whole regime of the practical side of it?

A. Yes sir.

Q. Until you became finally a producer on your own account.

2747 A. Yes sir.

Q. You were thoroughly familiar with the drilling and operating of oil wells and gas wells before you went into the producing business?

A. Yes sir.

Q. And knew not only how the wells were drilled and operated, but also how leases were taken, and what was necessary to do to get together territory in order to operate?

A. I did.

Q. You were also familiar with the fact of how one well in a certain locality drilled by anybody would develop other territory in the same section?

A. I was.

Q. And looked out, of course, when you were looking for leases, as to what was purely wild cat territory and what was more or less developed territory?

A. Yes sir.

Q. And in your experience throughout all these years you found, very frequently, did you not, that certain territory that was regarded as developed by wells drilled a certain distance therefrom proved to be dry, while the wild cat territory, when drilled, proved to be good territory.

A. I have.

Q. In other words, that is not the exception; but very

2748 frequently occurs in the operation in any field, isn't that true?

A. That is right.

Q. The taking up of leases, and the operation of them, until wells are actually drilled upon the same, or within a comparatively short distance, is purely speculative, is it not?

A. It is.

Q. And frequently a company or individual operator, it does not make any difference which, take up a block of territory of several thousand acres and drill wells thereon and get dry holes, and condemn practically all of his holdings, while another operator might take up a lease on a comparatively small acreage not far therefrom, and get a production?

A. That happens. I have noticed that that happens, yes.

Q. The taking of territory and drilling of wells in any new field, and especially in the beginning of that field, is practically a gamble, is it not?

A. It is.

Q. And it depends altogether upon how much money the parties have or are willing to invest in that gamble, as to how much of

an effort in that direction, and how many leases, or how many wells they will drill?

2749 A. It does.

Q. Now, in all of these counties to which you refer, were you drilling in those counties or others prior to the time you undertook to obtain leases on your own account?

A. I was.

Q. And had been for how many years, in those particular counties, say Lewis, Braxton and Gilmer?

A. Oh, possibly seven or eight years.

Q. Before you went into the producing business yourself?

A. Yes sir.

Q. You remember, I don't care for the exact time, but as near as you can fix it, when the first well was drilled in Lewis County that produced gas in any substantial quantity? I mean a gas well.

A. Why, in about 1900 I think.

Qx. Somewhere about 1900, according to your best recollection, and that was about twenty years ago?

A. Twenty years ago.

Q. And after the discovery of gas in that section, was there any active operation right away, or did the operations subside for a while?

A. Nothing very active in gas at that time. The leases were taken originally for the purpose of oil development.

2750 Q. They were taken originally for the purpose of oil development, were they?

A. They were.

Q. And they were not looking for gas; they were looking for oil?

A. That is right.

Q. And in those early days, let us say in 1900, when they got gas instead of oil, when a well was drilled, that was considered a misfortune, wasn't it?

A. It was.

Q. And the operator was very much dissatisfied?

A. Very much.

Q. And considered that he had lost out on his gamble, didn't he?

A. He did.

Q. It is only in comparatively recent years, say about the last eight or ten years, that gas wells have been considered as of much value, isn't that a fact?

A. Somewheres along between ten and fifteen years.

Q. Now when this development started in Lewis County that field was open, was it not, to every operator that wanted to go in and take up leases?

A. It was.

Q. And anybody that desired to, could have obtained leases for oil and gas purposes in Lewis, Braxton and Gilmer

2851 Counties, or any of those counties?

A. They could.

Q. And a good many independent operators, from time to time, independent operators so-called, went in there and took up leases, did they not?

A. They did.
Q. Some of them held them for a time, and some of them drilled them, and some of them assigned them, and some of them abandoned them?
A. They did.
Q. When you started in about ten years ago did you then obtain the lease to which — referred of that thirteen hundred and seventy-eight acres, I believe you said it was?
A. I acquired that lease, I think, in 1912.
Q. And what lease did you first take when you went in, when you started in the producing business?
A. I had been mixed up in little leases all the time I was a driller and tool dresser, and cannot recollect.
Q. In other words you always had an interest in some lease drilling all that time?
A. Yes, I always gambled a little bit in leases.
Q. And what the boys call "carried an interest"?
A. Yes.
Q. Your first large operation then was on the Smith farm, and on the thirteen hundred and seventy-eight acre lease?
2752 A. Yes, that was the largest.
Q. Now, at that time, ten years ago, when you started, I assume from what you say you could have obtained large numbers of other leases if you had wanted them at that time, could you not, in Lewis, Braxton and Gilmer Counties?
A. There was some available territory, but no big tracts that I know of.
Q. But there was available territory?
A. There was some available territory.
Q. And when you say available territory you mean territory that has been substantially developed by the drilling of wells in the vicinity?
A. I mean territory that would possibly prove good, that looked as though it might possibly be good.
Q. And looked as though it might be good on account of operations that had been conducted by somebody in the vicinity.
A. Yes sir.
Q. Of course all of the territory in Lewis County and Braxton County and Gilmer County had not been leased by anybody, and when I say all of the territory I mean all of the land?
A. All that looks good, I think has been leased.
Q. Yes, but that is not my question. We are accustomed
2753 to speak of territory as territory that, by reason of developments, is regarded by an oil and gas man as oil or gas territory, but there was land in those counties, and large tracts of land in those counties that has not been leased by anybody or developed by anybody, and you don't know whether there is gas or oil there or not; there is nothing to indicate, that is true, isn't it?
A. I don't know.
Q. Now at that time, say ten years ago, when you started in there, were there not, at that time, quite a number of independent

operators holding leases and operating for oil or gas in Lewis County?

A. There was.

Q. Have you any idea, approximately, of how many,—I am speaking now of the independent operator outside of the larger companies to which you have referred, such as the Hope, Reserve, Pittsburgh & West Virginia and West Virginia Central and Carnegie?

A. There was possibly nine or ten small operators around in Lewis County.

Q. And how about Braxton?

A. Well, there was not very many in Braxton County at that time. I don't know as there was any.

Q. The Braxton County development, as I understand came later?

2754 A. Came later.

Q. And so did the Gilmer County?

A. Yes sir.

Q. Lewis County was first in point of time, and then two or three years afterwards Braxton County, and about the same time Gilmer County, isn't that a fact?

A. That is right.

Q. Isn't it a fact that as a rule the development in these counties, the original developments, are made by the independent producers; isn't that the general rule in all counties?

A. Independent producers?

Q. Yes.

A. Well, I don't think so. I think the big companies have been the developers.

Q. You think the big companies then are the ones that have been the pioneers and have gone in these counties and drilled the wells, have taken up leases and drilled the wells to obtain and find out whether there was oil or gas there?

A. That is right.

Q. When the larger companies go into a district or county or section for the purpose of drilling the original wild cat well, test wells, as a rule they take up a block of leases sufficient to justify them in drilling such test wells, do they not?

2755 A. They do.

Q. That is the common practice?

A. They do.

Q. So that if they do get oil or gas they have enough territory to justify them for the gamble and risk?

A. They do.

Q. And when they get oil or gas in such pioneer development then the independent producers flock in so as to get the benefit of that development, and begin taking up leases on their own account; that is the general rule, isn't it?

A. That is the rule. If there is something loose they acquire it.

Q. Just as close as they can get it to the development?

A. That is right.

Q. And they make their calculation on the strata and on the lay of the land, and what they concede to be the direction of the oil bearing sands and so forth?

A. They do.

Q. And sometimes they hold those leases for a considerable period and sometimes they begin their own operations at once. That depends upon the individual?

2756 A. That is right.

Q. That has been the general practice in this and every other field with which you have been familiar?

A. It has.

Q. Ever since oil and gas business has been going on, is that correct?

A. That is right.

Q. Those companies which you say laid pipe lines into those counties, laid those pipe lines from time to time as developments took place in those fields, did they not?

A. I believe they did.

Q. And when gas was discovered by any operator in sufficient quantities to justify them in laying the line to his well to purchase the gas, they could make a contract for the purchase of the gas, they laid the line to the well?

A. They did.

Q. The custom is for the independent operator to deliver the gas to this pipe line company at the well, is it not?

A. It is.

Q. And the pipe line company goes to the expense of laying the line from their system, wherever it may be, to the well?

A. Sometimes that is the case, and sometimes it is not. Now, on this Watters Heirs lease we delivered the gas to a certain point on the lease, from the wells to a certain point.

2757 Q. That is from all of the wells on that lease to a certain point, and the pipe line company lays its line from its system to that particular point?

A. To that point.

Q. Of course there is no rule as to the distance or the number of miles that these pipe line companies have to lay them, what is called gathering line, to obtain the gas from the wells, sometimes one distance and sometimes another, depending upon the location of the main line or system of the gas company?

A. That is right.

Q. About how many miles, if you can remember, did the company, the Hope Company, lay its lines to this point on your Waters' heirs lease to take the gas?

A. I think it was a matter of maybe a mile and three quarters.

Q. What size line did they lay?

A. They laid an eight inch line.

Q. And eight inch line a mile and three quarters?

A. That is right.

Q. Do you know what it cost to lay a line that size that distance?

A. I could not tell off hand.

Q. You don't know?

A. I don't know.

2758 Q. Now, at the point at which the gas is delivered to the pipe line company a meter is set, is it not?

A. It is.
Q. And that is also at the expense of the gas company?
A. It is.
Q. And they have to maintain a force to read that meter from time to time, do they not, as the gas is put into the line?
A. Usually they do.
Q. How often is the meter read?
A. Every day.
Q. At least once a day?
A. Once a day.
Q. I suppose that depends upon the quantity of gas that is put in. Sometimes it is read oftener if it is a very large quantity?
A. No, it is read every day, because the chart is twenty-four hours and has got to be removed every twenty-four hours.
Q. Has to be read every day?
A. Has to be read every day.
Q. Do you know whether or not these meters, or these automatic recording charts are expensive or not?
A. I judge they are expensive.
Q. A pretty complex piece of machinery, isn't it?
2759 A. Yes.
Q. The West Virginia Central Company, within the last four or five years, took up a block of leases in Braxton County, did they not?
A. They did.
Q. And that, at that time, was regarded as wild-cat territory?
A. I don't know. I said they did. I don't know when they took those leases up. I know they had some leases out there.
Q. You don't know whether they took them within the last four or five years or not?
A. No, I do not.
Q. And that was regarded as wild cat territory until they drilled their well?
A. It was.
Q. And they drilled a well on that and got a good gas well?
A. They did.
Q. And that developed a certain amount of territory in that vicinity.
A. It did.
Q. And then operation in that vicinity was stimulated accordingly?
A. They were.
Q. And then independent producers and operators pro-
2760 ceeded to pick up all the territory they could get?
A. I believe they did.
Q. And that is the usual custom and practice, isn't it?

—. ——

A. Who developed, if you know, the oil and gas in Lewis County, that is the first development there, what company or what individual?

A. The first gas well that I know of drilled in Lewis County was drilled by some Baltimore people. Guffey and Gaily were interested in it.

Q. They were what you call independent operators?
A. Yes.
Q. That was the first gas well?
A. That was the first gas.
Q. That you know in Lewis County?

Mr. Steptoe: What year was that?

A. That was somewhere along about 1900.
Q. Now then, at that time did any of these companies to which you have referred, Hope or Reserve or Pittsburgh & West Virginia or West Virginia Central or Carnegie, have any leases in that county at that time, twenty years ago?
A. Not that I know of.
Q. Did the South Penn Oil Company have any leases in that county at that time, if you know?
2761 A. They did.
Q. After that well was brought in by these independent producers then, I suppose, they were flocking to that territory, the oil and gas producers, both independents and others?
A. No, they was not. That well was a disap-ointment to them.
Q. And that was because it was gas?
A. Because it was gas.
Q. They drilled in there in order to obtain oil, that was what they wanted.
A. They did. That was what they were looking for.
Q. And in those days a gas well was regarded as misfortune instead of good luck?
A. It was.
Q. And how long after that in that county before activity was stimulated?
A. Until long after six or seven years anyway, after that well was drilled.
Q. And who started the —, if you can recollect?
A. Well, I believe, about that time all these big companies were doing some work in that line.
Q. Do you know who started or who obtained the next development, as near as you can recollect?
2762 A. Well, I believe it was the Hope Gas Company.
Q. Who acquired the leases and wells that you say was the first that was drilled there, if you know?
A. The South Penn Oil Company bought the well and the leases.
Q. From the Baltimore crowd?
A. From the Baltimore crowd. At that time they were using coal for fuel in that Fink oil field, and they needed the gas for fuel for drilling purposes.
Q. And that was what they bought it for, was it?
A. That was what they bought it for.
Q. Used the gas to drill their oil wells?
A. To drill their oil wells.
Q. And what field were they drilling for oil, you say?

A. The Fink field.
Q. In what county was that?
A. In Lewis County.
Q. How far was that, about?
A. The Fink field was about fifteen miles from Weston.
Q. And how far was it from this gas well, about?
A. About five or six miles.
Q. And they piped gas from this gas well to this oil field?
2763 A. They did.
Q. To operate their drilling tools, etc., in drilling their oil wells?
A. They did.
Q. When you stated that there is no available territory to be taken up now, and none since six or seven years, and that prior to that time there was some scattered leases, you mean by that, did you not, available territory—I mean valuable territory that had been developed by drilling operations in the vicinity, which looked like good oil or gas territory, did you not?
A. I did.
Q. It is a fact, isn't it, that very frequently, while there is apparently no valuable territory, so called, developed as you have described, in a particular section, that there is other land which is subsequently drilled and developed which proves to be just as good as this which was prior to that time actually developed, and that is frequently the case, is it not?
A. I do not get that right.

(The last question was read to the witness).

A. Territory sometimes proves good that did not look very well. But there is very little territory in Lewis County laying idle
2764 that there is not a drilled hole some place around to condemn it.
Q. At the present time?
A. At the present time.
Q. But as you stated, six or seven years ago that was different?
A. There was some available territory at that time that looked valuable.
Q. And the price which you are receiving for your gas at the point at which it is delivered to the Hope Company, don't you figure that you are making more money than if you had laid the line and piped it to Weston and supplied the Town of Weston at the current rate or prevailing rate?
A. No, I believe we could have laid the pipe line to Weston, if we had laid it several years ago, and at the present rate, made more money.
Q. Have you included in that estimate the cost of a compressor station? And the operating of a compressor stotion in order to put the gas through to Weston, and the cost os your pipeline to Weston, and investment and all, and the price at which gas was being sold at Weston during that time?
A. No, I just answered that question off hand. I did not make any estimate.

2765 Q. Now just consider these items, the cost of your line, the expense of laying the line, the cost of operating it, cost of compressor station to put the gas through, and the price of gas at that time, and its changes, down to the present.

A. Well, I could not answer that question to say whether it would pay us to do it or not. I don't know. I answered that question a little too fast.

Q. Was there any reason why the Keener Natural Gas Company, if they had so desired, I mean Keener Natural Gas, Oil and Fuel Company which supplied Weston, could not have taken up additional acreage at the time it went in there and have drilled additional wells, if it wanted to?

A. They could have.

Q. When did the Keener Company go into Weston, if you know, about when?

A. Why, something over twenty-five years ago.

Q. At that time the whole field was open to it, wasn't it?

A. It was.

Q. They could have taken up leases anywhere they wanted to, substantially?

A. They could.

2766 Q. And they were in there from the beginning of that developement then, all the way through?

A. They were ahead of the Lewis County development.

Q. And they had the same opportunity as any other oil and gas company or independent producer, or any other operator in that field?

A. They did.

Q. And they had the market for their gas right there at Weston, didn't they?

A. They did.

Q. Do you know how many acres they took up?

A. I do not.

Q. Do you know how many they hold now?

A. I do not.

Q. Do you know how many wells they have?

A. I do not.

Q. Do you know whether or not they drilled any wells during the last year, and if so how many, or say for the last, take the period of the three or four years last past.

A. They have not drilled any wells that I know about.

Q. How do they get their gas then if they do not drill any wells themselves?

A. I believe they buy their gas.

2767 Q. They do not operate then for gas on their own account?

A. I don't think so.

Q. Who drilled the Freeman Creek territory? You said they got the supply in Lewis County from the Freeman field.

A. I think they get that from the Carbon Company.

Q. Are they interested in any way in the Carbon Company?

A. I don't know.

Q. Then, if I understand you correctly, they are not operating themselves at all?

A. I never knew them to drill a well.

Q. If, when they, from the time they started their operations, that is, if from the time they started to supply the Town of Weston, they had gone into the field like other operators or gas companies and taken up leases and drilled their leases, is there any reason at all why they should not have obtained and have all the gas they needed for the Town of Weston?

A. They could have had all kinds of gas if they had taken up the territory.

Q. And drilled it?

A. And drilled it.

Q. You stated that you thought they had a contract with
2768 the Hope Company for gas. Weren't you mistaken about that? Isn't it the Clarksburg Electric Light and Heat Company?

Mr. Steptoe: The Clarksburg Light & Heat Company.

Q. That supplies them with gas?

A. It might have been. I don't know for a fact.

Q. You don't know whether it was the Hope or Clarksburg Company?

A. I do not.

Q. The Hope Company is a kind of generic term that is used to indicate almost any of the companies that are supposed to be affiliated with the Standard interests, isn't it?

A. It is.

Q. Do you know who constituted the Keener Company, who are its stockholders?

A. I do not. I know some of the stockholders. I don't know who constitutes the company.

Q. Well, are they local people, people at Weston or vicinity?

A. They are local people.

Q. At Weston?

A. At Weston.

Q. You stated it with reference to Lewis County, that a large portion of it was good, and so on, that most of the territory in
2769 Lewis County had been drilled and was all under lease. Aren't there large blocks of territory in the Skin Creek district and Collins Settlement District that have not been drilled or tested and are not under lease by any of these companies?

A. I know of no block of territory in Skin Creek or Collins Settlement but what there has been some work done up there to condemn it. It has not been thoroughly drilled. There may be good stuff in those sections, but it has been the general opinion that it is not good.

Q. The only way, after all, to answer the question definitely, is with the point of the drill, isn't it?

A. Yes sir, that is the only test.

Q. And that is the only final test and only safe test. And it is a

fact, is it not, that there are blocks of territory in that district, the Skin Creek District and Collins Settlement District that have not been tested by being drilled, both for oil and gas, although there has been some drilling in that section?

A. Oh yes. It has not been thoroughly tested.

Q. It is a fact, is it not, in that, as in all other oil and gas fields, that a well drilled in and proved to be substantially dry, turns out subsequently as a freak well, and does not develop anything except its immediate surroundings? That happens everywhere,

2770 doesn't it?

A. It does.

Q. And on that account the trade, the oil and gas development, and drilling, understand that one or two wells are not sufficient to test a district, that is correct, isn't it?

A. That is true, it don't test the district, but it usually satisfies the man who drills the two wells.

Q. And do you know that Ed. Davisson and John Chidister took up a large block of leases in those very districts within the last year for the purpose of making some development there?

A. No, I don't know about it. They usually take it up and sell it to the Hope Gas Company.

Q. After they develop it?

A. Yes.

Q. The Hope Gas Company and these other large companies have, by their willingness to purchase territory and wells after territory was developed, stimulates and encourages the independent producer to take up blocks of leases and develop the same, during the last few years, have they not, or during the last ten years?

A. I don't know whether they did or not. There is as

2771 many independent producers as there was. I don't believe the independent producer has been successful, and so I don't see that they have got any encouragement from the Hope Gas Company.

Q. Well, when they do obtain the production of their gas, on account of the Hope Company and these other large companies, they have a market for their gas, have they not?

A. They have a market, yes.

Q. And they can dispose of their gas and dispose of their well and leases, if they want to?

A. They can.

Q. Prior to that time, when these large companies went into the field, if an independent producer obtained, from his operation, gas instead of oil, the only way he could obtain any compensation or remuneration for his activities in the field, was to himself lay a line, or get someone else lay a line to some available market in the vicinity and there dispose of the gas, was it not?

A. It was.

Q. And whether or not that could be done depended upon the quantity of gas that was thus produced, and upon the distance of the center of population from the point at which the well had been drilled or the development made?

2772 A. It was.

Q. And in former times, in consequence, I believe as you have stated with reference to this Baltimore crowd, the party bringing in a gas well was regarded by them as a misfortune?

A. It was.

Q. And now, under the present condition, as a rule, there is a market for that gas?

A. There is.

Redirect examination.

By Mr. Steptoe:

Q. You were asked about the transportation of gas originally by laying the pipe line from the production to some city, town or village. That was feasible or practical in the early days, was it not, by reason of the large volume of rock pressure?

A. It was.

Q. Is it feasible or practicable now to transport gas any given distance, a distance of any amount, by natural pressure, as the natural pressure exists in Lewis County?

A. I don't believe it is.

Q. Do I understand you to mean that pump stations are
2773 now necessary?

A. Pump stations are now necessary.

Q. How long since, how long have they been necessary?

A. Oh, in the last four or five years.

Q. Did you mean to be understood as saying that the finding of gas was problematical on every farm throughout Lewis County, that it was a mere gamble whether you would strike gas or not on an farm, or did you mean to refer to particular sections?

A. I consider it a gamble anytime you drill a well, whether you get oil or a dry hole or gas.

Q. That covers the whole of Lewis County?

A. Yes, sir.

Q. At the same time are there not sections of Lewis County that are considered more or less good territory as compared with other sections?

A. There is.

Q. I have in mind particularly, say Court House District and Freeman Creek District, what would you say about the prospect of obtaining gas in those sections?

A. I would much rather drill a well in Freeman Creek than to drill it in Court House.

2774 Q. Well, what are the chances of your striking gas in them, is it pretty generally found?

A. In the Freeman's Creek District the chances would be very good of striking gas. It would not be so good in Court House.

Q. Take Collins Settlement, and especially Skin Creek District, and the chances are worse still?

A. Still worse, yes.

Q. I believe you stated the first well was drilled in along about 1900 by this Guthey or Gailey crowd of Baltimore interests?

A. I did.

Q. They were searching for oil?

A. They were drilling for oil.

Q. They had no pipeline systems and were not engaged in or contemplating the natural gas business?

A. They did not.

Q. And frequently the gas is found, in the first instance, in a field by people prospecting for oil and not engaged in the natural gas business?

A. It has been.

Q. Isn't that about the way the fields have usually been, the gas fields have usually been found by oil people prospecting for oil?

A. Usually.

2775 Q. Now, you referred to the South Penn Oil Company going into Lewis County in the early days. Were its holdings then considerable?

A. They were.

Q. That acreage passed to what companies or company?

A. You mean the acreage of the first gas well?

Q. No, I mean of the South Penn Oil Company's holdings.

A. I do not get that.

Q. I mean what became of the South Penn Oil Company's holdings in Lewis County?

A. Their oil holdings?

Q. No, their territory that they held, whether oil or gas?

A. Why, I expect they still hold their oil territory.

Q. You don't know whether any of that territory that proved valuable for gas passed over to any of the other companies?

A. No, I do not.

Q. With reference to your Waters' heirs lease. I believe you said you acquired that in 1912?

A. 1912.

Q. Was it ever under lease before?

A. Not that I know of.

2776 Q. Were there any peculiar circumstances that enabled you to acquire it, or which prevented its being leased before that time?

A. No.

Q. Lewis County has been pretty well tested out now?

A. Fairly well tested.

Q. It has been known for some years about what territory was good gas territory?

A. Yes.

Q. How long would you say that that approved territory that you have just referred to has been under lease? I except now the scattered leases.

A. Oh, Lewis County has been very much under lease for the last twenty years.

Q. Chiefly by what company, the larger ones you mentioned?

A. When it was first leased for oil by the oil companies, Guthey and Gailey, and quite a bit of this property proved to be gas territory, and a lot of it was turned over to the big gas companies; and independent producers held some.

Q. You were asked on cross examination something about the prices. Let me ask you if the twelve cents you are now
2777 receiving has been received by you since 1912 from the Hope Gas Company? How long have you been obtaining twelve cents for your gas?

A. A little over a year.

Q. At what price did you sell it in the first instance?

A. We sold it at three and a half, four, four and a half and five. It advanced each year one-half cent.

Q. What was it just prior to your twelve cents contract of last year?

A. Five cents a thousand.

Q. Does the price that you receive compare favorably with the prices received by other independent producers?

A. I believe so.

Q. The price paid to independent operators is more or less fixed from time to time, isn't it?

A. I believe it is.

Q. You were also asked with a little more particularity about the Weston Company, and where it gets its supply. I believe you said you did not know whether it was buying from the Hope Company or the Clarksburg Light & Heat prior to its present contract with the Carbon Company?

A. No, I don't know personally. Just from hearsay.

2778 Q. I believe you said that the general discovery of gas, so far as new fields are concerned, by people prospecting for oil?

A. Usually that way.

Q. Were there many small operators who were propspecting, or independent producers, prospecting for oil, who found gas?

A. You mean in Lewis County?

Q. Yes, generally.

A. I can't just recollect the wells that were drilled for oil and produced gas.

Q. But that was the general rule?

A. That was the general rule.

Q. And there are a good many small producers engaged in that hunt for oil, are there not?

A. There are.

Q. And if they find they are gas instead of oil their market is through the pipeline companies who subsequently came in and developed the gas fields?

A. It is.

Q. And that has been the history of the oil and gas development, hasn't it?

A. It has.

Q. Have the independent producers who you just referred
2779 to, been in a position to construct, or did they construct pipelines for the marketing of gas, or did they wait until the pipeline companies came in?

A. The independent producers of gas producing gas for a business?
Q. Yes, finding it when prospecting for oil.
A. They did not do very much until the pipelines were in.
Q. And then their market was to the pipeline company?
A. Yes.
Q. When I say pipeline company, I am referring to the larger companies that you mentioned as now doing business in Lewis County, is that correct?
A. That is right.
Q. That would be the Hope Natural Gas Company, the Reserve Gas Company, the Pittsburgh & West Virginia Gas Company, the West Virginia Central Gas Company, and possibly the Carnegie Natural Gas Company also?
A. That is right.

2780 Recross-examination.

By Mr. Weil:

Q. Mr. Snaith, returning now to the developement of that Lewis County field: After this well was drilled by the Baltimore party to whom you referred, isn't it a fact that T. Barnesdale went in there and took up a big flock of leases and drilled a number of wells and really started the developement of that field?
A. It is.
Q. And notwithstanding the fact that he obtained gas wells, he continued and drilled a number of wells and held on to his territory and to his production until later on, and continued to drill?
A. I think that is right.
Q. And T. Barnesdale is really entitled to the credit for the developement of Lewis County, is he not, originally?
A. Yes, I think he is.
Q. You spoke of receiving originally, three cents, three and a half cents, four and four and a half and five cents, an advance of one-half cents a year on the price of gas you sold to the Hope, until it got to twelve cents. Then you made a contract for twelve cents. When did that contract begin, what year?
2781 A. I think it began in 1914.
Q. That was the first sale to the——
A. To the Hope Gas Company.
Q. In 1914? At what price was gas selling at that time in Weston?
A. I think it was selling at ten cents.
Q. And how long did that continue to sell at ten cents?
A. A very short time after that.
Q. And then what was the next price after that; it advanced from ten cents to what?
A. I think it went to fifteen.
Q. And then what was the next advance?
A. Twenty cents I think.
Q. And what was the next after that?
A. Twenty-five.

Q. And then to twenty-eight, the price at which it is selling now?
A. Twenty-eight cents.
Q. And when was the twenty eight cents price established?
A. I think about a month or two months ago.
Q. Just a month or two ago?
A. Yes.
Q. Just quite recently?
2782 A. Quite recently.
Q. At the time the Hope Company made this contract with you to take your gas, do you know what the industrial rate was? That was the domestic rate you were giving us?
A. Yes sir.
Q. What was the industrial rate in Weston when the domestic rate was ten cents?
A. I think gas was sold for four cents, I don't know for sure.
Q. And do you know what it was sold for when the domestic rate was fifteen cents?
A. I do not.
Q. Do you know when that four cent rate was changed?
A. I do not.
Q. You haven't the date for that?
A. No sir.
Q. At the time the Hope made this contract with you at three cents, and advanced it a half a cent a year for the five years, in 1914, or thereabouts, you knew it to be a fact at that time, did you not, that they had more gas from their own production than they could dispose of at that time? Didn't they so inform you?
A. I believe they so informed us.
2783 Q. And didn't they tell you, in order to take this gas, they would have to shut in a part of their own gas to take this gas from you?
A. I believe they did state something to that effect.

2784 CHARLES A. SHORT, called as a witness, having been first duly sworn, testified as follows:

Direct examination.

By Mr. Steptoe:

Q. Mr. Short, give us your age and place of residence.
A. I am 57 years old, and reside at Shinnston, West Virginia.
Q. Is that in Harrison County?
A. Yes sir.
Q. How long have you resided there or in that vicinity?
A. I have resided within four miles of Shinnston all my life.
Q. What is your present occupation?
A. For two years I have been a contractor and dealer in lumber and builders supply.
Q. That is your principal business?
A. Yes sir.

Q. Have you at any time been interested in the natural gas business in the way of production or in the marketing of it?

A. Since October 2nd, 1902, I have been interested in a little development and furnishing gas for our own town.

Q. That is the town of Shinnston?

A. Yes sir.

Q. Is that an incorporated town?

2785 A. Yes sir.

Q. About what is its size?

A. A little over two thousand.

Q. Has it any industrial plants?

A. We have a few small industries, two glass factories silk mill and a few other little things.

Q. In what way have you been connected with the natural gas business, that is through the little companies you mentioned?

A. What is known as the Home Petroleum Gas Company.

Q. How much acreage has it?

A. Well, I suppose right at two hundred fifty acres.

Q. Where is that acreage located?

A. There is one hundred fifty acres, one foundry, located right on Cunningham Run, on the waters of Big Bingamon.

Q. In what district and how close to Shinnston?

A. That is in Eagle District of Harrison County, and it is estimated at about four miles of our town.

Q. And where is the rest of it?

A. Then we have forty acres within a quarter of a mile of this, another piece I think something like forty acres two miles beyond, the edge of Marion County, just a short way above Wyatt; then we have about thirty-two acres laying down Bingamon Creek, north of Shinnston about two miles; that is about the amount of acerage we have.

2786 Q. And how many wells?

A. Six wells, I guess.

Q. Is that the only connection you have had with the natural gas business?

A. Yes sir, I guess that is about the only well, we have two one more small well close in town we are buying the gas from one individual.

Q. Have you at any time been interested in any other companies, either in the way of producing gas or taking up leases, and matters of that sort?

A. Nothing only about sixteen years ago I had a little stock with some of the boys in Roane County for a period of about four or five years.

Q. Are you familiar, by reason of your long residence in the section surrounding Shinnston, with respect to oil and gas territory and the leasing up and development of it?

A. Why, I am right familiar with it, yes; of course I never made it much of a study, but I am in that line only as a mutual company to furnish the fuel and take care of the town, that is what our company is organized for.

Q. What is your official connection with the company?
A. I am at the present time Vice President of it.
Q. And I presume you are a large stockholder?
A. Yes sir; at the time it started I installed the plant and operated it about two years in order to get it going, and then I resigned,
2787 as manager and went back to my business.
Q. Are there any other companies supplying gas to Shinnston, or any part of it?
A. What is know- as The Pittsburgh & West Virginia Gas Company.
Q. Does it hold a franchise in that town?
A. Yes sir.
Q. Your company, I presume, holds a franchise?
A. Yes sir.
Q. Does the Pittsburgh & West Virginia Gas Company supply many consumers there?
A. I think at the present they have about one hundred fifty or one hundred sixty; something like that.
Q. Then I assume the majority of the consumers there are taken care of by your company?
A. The majority of them, yes, over three hundred I think it is.
Q. And how about the industries you mentioned in Shinnston, what company supplies them?
A. I think our company probably supplies—all of them, and I think one gets its supply from either the Consolidated Gas Company or under the name of the Lumberport Gas Company, I ain't sure which it is now. It used to be known as The Consolidated Gas Company.

(By Mr. Weil:)

Q. Who supplied the other industries?
2788 A. I think we supply all the others, such as the grist mill and things of that kind.
Q. They are small matters?
A. Yes, they are small matters.
Q. Referring again to the Pittsburgh & West Virginia Gas Company, did that company ever go under any other name?
A. If I mistake not, the charter was granted under W. J. Rowland's name.
Q. You mean the franchise?
A. Yes.
Q. And to whom did that charter pass?
A. It passed from that to the Grafton and Fairmont or the Fairmont & Grafton Gas Company.
Q. And the present company is the same thing as the Fairmont & Grafton, under a changed name?
A. A change of hands from one name to the other.
Q. Does that company supply any industrial consumers in Shinnston?
A. I don't think it does. I am not positive.

Q. With reference to your company, how is your plant operated, how is your gas transported from the wells to market?

A. Natural pressure.

Q. No pump stations?

A. No sir.

Q. How long has gas been used in Shinnston for domestic
2789 and industrial purposes, or either?

A. I reckon right at twenty years, either nineteen or twenty.

Q. Do you recall when the franchise that you have just referred to was granted to Rowland?

A. No, I can- recall the exact date, but it was something like two or three years before our company was organized.

Q. I hand you a paper here purporting to be a copy of the franchise from the town of Shinnston to one Rowland. Can you refresh your recollection from that paper and tell me when the franchise now held by the Pittsburgh & West Virginia Gas Company was granted.

A. Yes sir, it is June 19th 1899. I knew it was right at that time, but I could not just recall the exact date.

Q. Give us the exact date when it was granted?

A. It shall take effect—let's see—June 19th 1899.

Q. Are you acquainted with the principal gas producing and marketing companies doing business in your section of Harrison County?

A. Yes sir.

Q. Could you name the principal companies?

A. You mean that is producing gas in the city down there?

Q. Producing and marketing, and having pipe line system.

A. The Hope Natural Gas Company and The Monongahela Valley Traction Company, The Carnegie Company, and I reckon
2790 the Fairmont & Grafton Gas Company.

Q. By the last one, do you mean The Pittsburgh & West Virginia Gas Company?

A. Well, it may have taken that over; an eight inch line that went through there towards Fairmont and then went to Grafton; it may be it now belongs to the Pittsburgh & West Virginia Company.

Q. How does the Monongahela Valley Traction Company holdings compare with those of the others you mentioned?

A. I don't know that they have got any territory in our immediate neighborhood. I think they buy most of their gas on this side of our town, unless it is up in some other county.

Q. What I mean to *illicit* is whether or not it is as large a concern as the others you mentioned.

A. No, not at all.

Q. Has your company any territory developed or undeveloped beyond what you mentioned?

A. No, we have no reserve territory.

Q. What are the possibilities of acquiring other territories?

A. Our show is very slim at the present time.

Q. Explain a little more fully. Is there any available gas territory to be had?

A. I only know of one small piece: there is a piece of about
2791 thirty-two acres not far from one of our wells, that there might be got, but it does not look so very good,—our last well we drilled.

Q. By what company or companies is the gas territory in that section held?

A. The Hope and The Pittsburgh & West Virginia.

Q. Is gas pretty generally found in that section?

A. There is a right smart. A few years back, but it is getting very scarce now.

Q. I mean to ask this: whether the gas was found, or is found, in scattered leases, or whether generally?

A. It was tolerably scattered.

Q. To what extent is that section of the county a proved gas territory?

A. I would say something over half; maybe two thirds.

Q. Your company was started in what way?

A. Our charter was granted October 2nd 1902.

Q. Did you, back in the early days and to the present time, make any effort to acquire additional acerage?

A. At the time we started out, territory was pretty well leased up.

Q. By what companies?

A. The Hope had a good portion of it, and The Pittsburgh & West Virginia had a right smart.

Q. Has there been, since the date your company started,
2792 any large blocks of gas territory which was available in your immediate section?

A. Not that looked worth while to drill.

Q. Have you made reasonable effort to acquire larger acerage?

A. Yes sir, we have tried and kept our eyes open watching for territory. We had one lease some ten years ago of about fifty acers, but we drilled a dry hole.

Q. How far from the town of Shinnston did you go in your search for additional territory?

A. We never have tried for territory more than five miles away.

Q. Why not?

A. From the simple fact our company was small, made up largely of our customers, and we was not financially able to reach out and take in big blocks, or go any big distance away.

Q. Well, what would have been the difficulty about obtaining the gas from wells farther situated from Shinnston?

A. The expense of piping it in, we figured, was too great for the size of our company.

Q. Could you have acquired a reserve acerage at a greater distance from Shinnston, say fifteen or twenty miles away?

A. No, we have not tried that.

Q. Why not?

2793 A. The fact is we didn't feel financially able to go to the expense of piping it so far, was one thing; and another thing there was no territory we ever could find that was loose that we were able to handle; one party one time found a small piece, something

like eight miles away, but we figured if we struck a well we were hardly able to pipe it to the town; only had twenty acres.

Q. Has your company had any difficulty in the way of getting gas from the wells to the consumers by reason of decreased rock pressure?

A. Yes sir.

Q. I believe you stated you had no pump station and relied upon natural pressure.

A. We have no pump station, and depend upon natural pressure.

Q. Are your leases joined by any of the holdings of the larger companies you have mentioned?

A. Yes sir.

Q. Are those adjoining leases developed,—drilled?

A. Yes sir.

Q. Has the operation of the wells on the adjoining premises held by the larger companies had any effect on your well?

A. We have one well that the Hope has a well on the adjoining farm, and they have a pump on their system over there, that has given us some trouble on that well; it reduces it very fast and
2794 seems to hold it down.

Q. To be a little more specific in that statement, what effect has it had upon your ability to get the gas from your well to your consumers out of Shinnston?

A. Our well shows a volume, but the pressure is reduced so it won't drive it through it. We have had the matter up two — three times of putting on a pump, but we figured the expense of pumping was too weighty for us.

Q. Inproportionate to your financial strength?

A. That is it. We paid no dividends for nine years and better.

Q. I understood you to say it was a sort of co-operative company for the benefit of the town of Shinnston.

A. Exactly, that is what it was really started for.

Q. I will ask you, from your more or less limited experience in the gas business, what would be the effect upon the ability of your company to supply its consumers, if all of the wells of the larger companies in the neighborhood of your leases were put on suction, and by suction I mean taking gas from the wells at less than atmospheric pressure?

A. We figured for the last two or three years, it is only a matter of two or three years until we are going to be out. We figure our supply of gas will last, if they keep on drawing on it, as our pressure has dropped down that long.

2795 Q. Do you mean to say that will be irrespective of whether or not the adjoining wells are put on suction?

A. I believe it may last four or five years, but at the rate the pressure has went down in the last ten years, I think we won't last more than three or four years at the outside.

Q. I don't believe we quite understand each other, Mr. Short. Do you mean to say that the wells of the larger companies adjoining your leases are now on suction?

A. I understand that a part of them are.

Q. What company?

A. The Hope.

Q. Do you know that positively or is that just a matter — information?

A. That is just a matter of information. My manager, who, looks after the wells, can notice the difference at times.

Q. You have detailed the experience you had on one well in the way of taking care of the rock pressure and inability to get the gas to market; that is same condition mentioned with respect to any of your other wells?

A. No, the other wells—there is one has played out entirely, and the other wells I don't think any of the wells was very close to them.

Q. So that you feel the effect of adjoining operations chiefly on this one well, where there is a competitive well on the adjoining property?

2796 A. Yes sir.

Q. Let me ask you if you are able to answer, what would have been the effect, if any, upon acerage taken up out some distance from Shinnston, and held in reserve, in view of the operations of the larger companies in that section? To state it in another way, would acerage taken up and held in reserve out in the fields have been affected by the operations of the larger companies?

A. That might depend on how big acerage you could have got hold of. This one hundred fifty acre tract, we have been holding, practically the east side of it, in reserve for the last fifteen years, thought we had a good show there; so we did have two good wells on this farm, and in drilling the third well, we only got about one hundred or one hundred twenty-five thousand cubic feet.

Q. What had your first two wells done?

A. One well, I don't remember, something like two million or a little over, and the other one, the first we drilled after our plant was started, it run something like a billion feet.

Q. What was the rock pressure?

A. The rock pressure on it I think at the time it was drilled in was something like six hundred pounds.

Q. Now, what was the rock pressure that you found in your last well?

A. I can't recall just what it was, but it was only a little over a hundred.

2797 Q. Do you attribute the difference in size and pressure between your last well drilled and your two first wells drilled entirely to the effect of your first two wells or to any other developement in that vicinity?

A. No, there is no other developement so very close to that.

Q. Well, is the pressure of the field generally decreasing?

A. Yes sir.

Q. Are there many wells by the various companies and other people engaged in the production of natural gas in your section?

A. Not right in or close to Shinnston; no companies. A few smaller ones up the river a little.

Q. Any of the larger companies that you have referred to hold any territory close to Shinnston?

A. Yes sir, about all the time I know of. Of course at Enterprise, three or four miles below us, there is a local company.

Q. How close to Shinnston are the leases and wells of the Hope Natural Gas Company and The Pittsburgh & West Virginia Gas Company?

A. The Hope Company just recently plugged a well on my farm, that was within the city limits, and then they have others between the town and where we got our gas from; also the Pittsburgh
2798 & West Virginia Gas Company on both sides of the town, within a mile and a half or two miles.

Q. Has your company been able to fully supply its consumers from the beginning of business.

A. No, for the last five years, of cold weather, we got very slack, and have advised a great many of them to install coal fires.

Q. What would you say about the domestic consumers of Shinnston being supplied in the last few years by your company and the Pittsburgh & West Virginia and the other company you have mention-?

A. Some ten years, The Pittsburgh & West Virginia Company only had a few consumers. What was know- as the Consolidated Gas Company, which was organized there about ten years ago, they had, I think, something like one hundred fifty. Our company had something like three hundred fifty or three hundred seventy-five.

Q. Have they been fully taken care of?

A. No, we have been very slack; some of our consumers have gone to the Pittsburgh & West Virginia Company on account of the scarcity of gas.

Q. Has The Pittsburgh & West Virginia Gas Company taken c-re of the situation?

A. Yes sir, they have taken care of it very well I think, most of the time, however a few times was slack due to a freeze-up
2799 or something like that.

Q. Do you refer to the Consolidated Gas Company? Is that company still in business?

A. That was bought by some men at Lumberport, I think.

Q. Do you happen to know whether that company failed or not?

A. Yes, failed and sold in front of the Court House.

Q. And bought in by the Lumberport Gas Company.

A. Yes sir, a man by the name of Coaltrain bought it in, I don't know who is connected with it at Lumberport. I think they still maintain a charter.

Q. To what extent has natural gas been used in the town of Shinnston since service of gas commenced there?

A. Up until the last two years, it was used for all heating and lighting.

Q. How about industries?

A. Some for industries.

Q. In other words, natural gas was used for all purposes?

A. Yes sir, of course the last three or four years, installed an electric light plant, and in the last two years some had to go back to coal.

Q. How about the town? Is it lighted by natural gas or electricity?

A. Has been natural gas up until I think two years ago when they installed an electric light plant; gas was getting scarce and
2800 had poor lights and had to instal- electric light plant.

Q. You say in some cases in Shinnston, they have gone to the use of coal?

A. Several have installed one coal fire and some more than that; a good man- have one coal fire.

Q. When you say natural gas was used in Shinnston for all purposes, do you mean to include stores, public buildings, and school houses?

A. Yes.

Q. Have they suffered by any shortage, like the domestic consumers?

A. Yes sir, schools had to close, churches had to abandon, on account of the shortage of gas.

Q. You are more or less familiar with other sections of Harrison County, are you not?

A. Yes sir.

Q. The conditions you have detailed with reference to Shinnston, are true in the other sections you are acquainted with?

A. It seems to be general.

Q. With respect to the service of gas to domestic consumers, as well as industrial consumers?

A. Yes sir.

Q. And the same thing is true with reference to churches and school-houses and public buildings.

A. Yes sir.

2801 Q. They have all experienced the same difficulties?

A. Yes.

A recess was here taken until one thirty o'clock P. M.

2802 Supreme Court of the United States, October Term, 1919.

THE COMMONWEALTH OF PENNSYLVANIA, Complainant,

vs.

THE STATE OF WEST VIRGINIA.

THE STATE OF OHIO, Complainant,

vs.

THE STATE OF WEST VIRGINIA.

Before Levi Cooke, Esq., Commissioner.

Defendant's Testimony.

Afternoon Session, February 9, 1921.

2803 Wednesday Afternoon, February 9, 1921.

And now, the hour of 1:30 o'clock p. m. having arrived, hearing resumed, pursuant to adjournment.

CHARLES A. SHORT resumes the stand.

Cross-examination.

By Mr. Weil:

Q. Mr. Short, I understood you to say on your direct examination, that you were mainly instrumental in organizing the Home Petroleum Natural Gas Company, which supplied natural gas to your town of Shinnston?

A. Yes sir.

Q. What was its capital stock?

A. I believe it started at fifteen thousand dollars.

Q. Was it paid in in cash?

A. Yes, we bought up a lot of stock and reduced it down to fifteen thousand dollars, probably two hundred now.

Q. And the company was composed, I believe you said, of local parties?

A. Practically all.

Q. And it is a co-operative company for the purpose of
2804 supplying the town with gas, and those interested in the company?

A. Yes sir, largely.

Q. And what was the date when it was organized, if you can recall?

A. I think the charter was issued October 2, 1902. I believe it was the charter that was burned up in the fire.

Q. What was the price that you charged at that time, at first, what was your price for the domestic consumers?
A. As well as I recall, it was nine cents a thousand.
Q. And what was the price to the industrial consumers?
A. Five or six; something like that.
Q. And how long did that price obtain?
A. Ten years.
Q. And that would bring it up until 1912, about?
A. Yes sir, about that time.
Q. So that until 1912 you charged your domestic consumers nine cents and your industrial consumers five or six cents a thousand?
A. Yes sir.
Q. In 1912, to what time did you advance it then?
A. I think it was about fifteen cents and two off, or fourteen and two off, maybe.
2805 Q. For domestic sales?
A. Yes.
Q. And what to industrial consumers?
A. I can't recall; something like eight or nine.
Q. And with a discount?
A. A discount of, I reckon, two cents on domestic and the same on industrial, I think, I am not sure any on industrial.
Q. And how long did that price prevail?
A. I suppose, likely, it run a couple of years at that.
Q. And that would bring it to 1914 or 1915?
A. Something like that.
Q. And to what price was it advanced then?
A. Well now, I am not sure whether we have had two more advances since that or only one. I think it got up to, maybe, twenty-two with two off, a couple of years or a little over.
Q. That is domestic?
A. Yes sir, and industrial probably something like fourteen, I believe it was; twelve to fourteen. We have had several advances on it, but I can't recollect without the minute book.
2806 Q. And then when was the next advance as near as you can recall?
A. Over two years ago.
Q. And how much was that?
A. I think now twenty-seven with two off.
Q. That is the domestic?
A. Yes.
Q. How much to the industrial?
A. I ain't certain about that; eighteen or twenty.
Q. What was your position with the company in the first instance, what office did you hold?
A. I was one of the directors.
Q. Held no office?
A. No, not at that time.
Q. And I believe you stated you had the general management of the company at first?
A. That was after the second well was drilled.

Q. And that was what year?
A. That was, I think it was finished in December, probably.
Q. Of what year?
A. December, 1903, I think.
Q. And you were the general manager?
2807 A. At that time we decided to go to work and equip a plant, and put the gas into the town, and we got a franchise, and they put it in my hands to proceed with it.
Q. And you continued in that position for how long?
A. About a couple of years.
Q. And you did equip the town and build the lines in?
A. Yes sir.
Q. What size line did you build from the wells to the town?
A. We had about three miles of two inch line, and about one mile of three inch line, and outside of the main line to the town, on the cross streets, was two inch lines on both sides of the street.
Q. And has that size pipe continued ever since?
A. No, the main line has since enlarged to five and three-sixteenths inch, a good portion of it; the two inch part has been enlarged to five, and I think three-sixteenths.
Q. And when was that?
A. That has been eight years ago, and maybe ten.
Q. That the line was enlarged?
A. Yes sir.
Q. And the population of the town I believe you said, was about two thousand people?
2808 A. They estimated it about that, or a little over two thousand.
Q. And you had some small industries at that time in the town?
A. At that time we had practically nothing only a grist mill, a planing mill, a few things of that kind at that time, when we installed the plant.
Q. But afterwards did other industries come in?
A. Yes sir, started out in the last three years.
Q. These industries all came in within the last three years?
A. I think one down there probably five years.
Q. Which one is that?
A. Glass factory.
Q. And the others?
A. In the last three years.
Q. What are they?
A. One a glass factory and the other a silk mill.
Q. How many employees do these respective companies employ, the original ones, the glass factory first?
A. The original glass factory, I don't think employed over a dozen.
Q. And how many other glass factories?
2809 A. The other I think they employed, when they run, something like forty-five or fifty.
Q. And the silk mill?
A. It is estimated that forty-eight people, when it is in operation.

Q. Are those employees of the glass plant from people in the town, or are they strangers that were brought in?

A. They are mostly *twon* and vicinity.

Q. What about the silk mill?

A. The most of them I think are from the town; been a few brought in.

Q. Prior to this time, had you any experience in the oil and gas business?

A. No sir.

Q. And your principal business is that of a contractor and builder and dealer in lumber and hardware, as I obtained from your card?

A. Yes sir.

Q. That has always been your principal business?

A. Yes sir, been in that business for thirty-eight years.

Q. And this other matter was just a side issue with you?

2810 A. The gas business?

Q. Yes sir.

A. Yes sir, a side issue.

Q. You do not claim then to be an expert in the oil and gas business?

A. Well, no, I don't claim to be an expert, as I told in the beginning, started in as a mutual thing to help our town; was not really a speculative deal.

Q. Are these industries running now?

A. Two of them are.

Q. Which two?

A. One glass factory and the silk mill; the other has shut down for repairs.

Q. How many different companies were in the Town of Shinnston at the time your Home Petroleum Company was organized? Was there any other company at that time in the town?

A. One company.

Q. What was its name?

A. At that time it was known as the Fairmont & Grafton Gas Company.

Q. And it was undertaking, was it, to supply consumers in the town?

2811 A. Yes sir.

Q. And has it continued so to do?

A. Yes sir; the same lines have; it has changed names.

Q. And has continued up to the present time?

A. Yes sir.

Q. What other companies then came in afterward, besides the Fairmont & Grafton Gas Company and the Home?

A. Why, some of our local people organized a little company, known as the Consolidated Gas Company.

Q. And did that come into the town also and undertake to supply consumers?

A. Yes sir.

Q. And how long did that last?

A. I am not sure; it runs in my mind four or five years.

Q. And when did they commence, about?
A. Something like six or seven years ago.
Q. Is it in there now?
A. The plant is still there; of course the company went broke and was sold before the court house.
Q. Who bought it?
A. Mr. Coletrain of Lumberport.
2812 Q. What company owns it now?
A. It is owned by him and some associates at Lumberport, I understand. I guess it is known, maybe, as the Shinnston Gas Company. I think it was the Consolidated before.
Q. And that is operating in the present time also in the Town of Shinnston?
A. Yes sir, to a small amount.
Q. Is there any other gas company in the Town of Shinnston?
A. None that I know of.
Q. Then you have the Home Company and the Fairmont and Grafton Company and the Consolidated Company, which afterwards became the Shinnston Company?
A. Yes sir.
Q. Are those all?
A. All that I know of.
Q. All in this little town of two thousand?
A. A little over two thousand. It was estimated two or three years ago I think at twenty-three hundred, and something.
Q. But your company has the largest number of consumers, I think you said?
A. Yes sir.
2813 Q. Is that because of the town people being interested in it more than in any of the other companies?
A. I can't say it is particularly that, because I think some of the stockholders maybe use off of some of the other companies.
Q. As a matter of fact, the Fairmont & Grafton Company have a fair supply of gas there, have they not, a better supply proportionately than the Home Company?
A. Yes sir, they have a better supply.
Q. And have had ever since they came in?
A. For a while we had a good supply.
Q. For the last few years?
A. Yes sir, for the last four or five years, probably, they have had a better supply.
Q. What about the Shinnston Company, or Consolidated Company, or either name?
A. I think they have a fair supply at the present time.
Q. Where does the Fairmont Company obtain its gas supply, where does it have its wells and lines?
A. You mean the Pittsburgh & West Virginia Gas Company?
Q. Well, it is now the Pittsburgh & West Virginia, yes sir.
A. They have a good many wells in the vicinity of Shinns-
2814 ton, and have I think an eight inch line, or maybe a twelve inch line, back about a mile from Shinnston.

Q. And where does the Shinnston company get its gas?

A. I think they get from one well near the Cemetery, about a mile and a half south of Shinnston, and some, I think they get from the Lumberport end, and they may have one or two wells in the edge of town, I ain't sure about that. Been one or two plugged there.

Q. When did you make your lease of your farm in the town to the Hope?

A. I am not sure, I believe it was 1899, or something like that.

Q. Was it 1899?

A. 1898 or 1899 or along there some place.

Q. That was before then the Home company was organized?

A. Yes sir, I think they only lacked five hours of the ten years before they got it drilled in. I think they used it between eleven or twelve years before it was plugged.

Q. Are there any other wells drilled in or around the town?

A. Yes, one or two more drilled inside of the borough
2815 limits, I guess.

Q. By whom?

A. Who drilled on Mrs. Monroe's farm? I never knew who all was connected with it.

Q. Who owns the lease?

A. I don't know who owns the lease. I think Mattie Nusbaum was one of the men interested in it, and I think, maybe a man or two in Fairmont.

Q. Did they get gas?

A. A small amount.

Q. What did they do with the gas?

A. I think possibly one well is abandoned and the other one belonged to a man by the name of May, in Shinnston.

Q. He uses it himself?

A. Turns it into our company's line.

Q. Turns it into the Home Company?

A. Yes sir. It is not making but very little; something like seventy-five thousand.

Q. In what sand did the Home Company drill their wells, into what sand?

A. We have both of our wells in the fifth sand. We have one in the thirty foot.

2816 Q. And how much does it cost now to drill a well?

A. We have not drilled any for over three years.

Q. What did the last well you drilled cost you?

A. Eighty some hundred dollars. I forget now how much it was, eighty-four or five hundred.

Q. Was that after it was fitted up or just the drilling?

A. No, that is the whole cost.

Q. Do you know what it costs now to drill a well in that section into the fifth sand?

A. No, I don't know that. I know it costs more than we wante to tackle at the present time; very costly now.

Q. I didn't get that.

A. I know it costs more than we wanted to tackle at the present time; very costly now.

Q. You mean by that, I suppose, the Home Gas Company?

A. Yes sir.

Q. In that well you drilled that cost eight thousand dollars, did you use new or second hand material?

A. The most of the casing was second hand.

Q. And what other material was second hand?

A. A part of the rig timber.

Q. If it had all been new material, would not it have cost
2817 over ten thousand dollars?

A. No doubt.

Q. When did the Hope Company begin its operations in that field adjacent to Shinnston?

A. I don't know that I can call to mind when they put their first wells into operation around there; but it has been as much as sixteen years anyhow; pretty near eighteen.

Q. That was after the organization then, seven years after the organization and the beginning of operations of the Hope Gas Company?

A. Yes sir.

Q. And when did the Monongahela Valley Traction Company organize and begin its operations in that field?

A. They have had their lines in there more than, I reckon, six or seven years; not more than that length of time.

Q. And when did the Fairmont and Grafton Company begin its operations in that field?

A. I think about 1899.

Q. That was before the Hope Gas Company?

A. Yes sir, they took in the second well drilled in that country; they took the gas from the second well drilled in Eagle District.

2818 Q. Did they bring it to Shinniston?

A. Yes sir.

Q. And have been supplying Shinniston ever since?

A. Yes sir.

Q. I believe you said you didn't know whether the Carneigie was in there or not?

A. At Shinston?

Q. Yes, in that field.

A. They have a line running through there.

Q. Have they got any leases, any territory, in that field?

A. If they have, it is on back as much as five or six miles; none is within four or five miles of Shinnston, that I know of.

Q. Do you know of any territory they have in that particular field?

A. Any territory the Carneigie people have?

Q. Yes, in what you call the Shinnston field.

A. I don't guess I do know any.

Q. The Pittsburgh & West Virginia Gas Company is what was the Fairmont and Grafton Gas Company, isn't it?

A. Yes sir.

Q. It is the same company under a different name?

2819 A. Yes sir.

Q. I believe you stated that the Home Company could not afford to go four or five miles to take territory and drill wells, because of its financial condition and the cost of obtaining such territory, drilling wells and laying lines?

A. On small pieces; if they had got hold of big enough territory, we could.

Q. Before these other companies came in, that other territory, four or five miles distant, etc., had not then been developed, I suppose?

A. It was practically all under lease, though.

Q. I understand, but it had not been developed as gas territory?

A. No, had not.

Q. Had not been drilled?

A. No.

Q. When your company was organized, how much territory did it hold at that time?

A. We first had five acres adjoining town; before we drilled our first well, we had one hundred, fifty acres, four miles, air line, on Cunningham's Run, adjoining farm with the second well that was drilled in that section.

Q. Did you have any other territory at that time?

2820 A. Not at that time.

Q. Now, when did you next acquire any territory, how long afterward?

A. Something like a couple of years after we drilled in our second well.

Q. And where was that acquired?

A. We first got ahold of a piece up Shinn's Run, fifty acres, above Shinnston, about a mile and a half.

Q. And was that developed territory at that time?

A. Not right in where it was; had been no development very close to it.

Q. When was the next territory that you acquired?

A. Another farm about two miles north of Shinnston, on Bingamon.

Q. And what year was that, about?

A. I think about 1910 or 1912.

Q. That was about ten years afterward then?

A. Yes sir.

Q. And that was the last territory you acquired, was it?

A. Yes sir; we tried to get another piece or two, but they were always in shape we could not get hold of them; somebody had a blanket option on them or something.

2821 Q. I believe you stated you never have had any compressor station?

A. No sir.

Q. What was the original rock pressure on your well?

A. I can't just recall, but I think Number Two was something like six hundred pounds, or a little over.

Q. And Number Two was the one you drilled at four or five miles distant?

A. Yes sir, on the Richardson farm.

Q. And what was the rock pressure on that well you had, the one adjoining the town, if you recollect that,—the first well?

A. Something like three hundred or a little over.

Q. Now then, what is the rock pressure on the well on the Cunningham farm?

A. I have not been about there for some time, but I think the man that looks after them told me some time back a little over a hundred. I have not talked with him for some little time, but they are away down.

Q. And what is the rock pressure on the well right adjoining town?

A. That well has been abandoned; didn't amount to anything.

2822 Q. It has been abandoned?

A. Yes sir.

Q. In what sand was that drilled originally?

A. Through the fifth sand.

Q. Where is the well that is drilled into the thirty foot?

A. The one two miles north of town, on the McIntyre farm.

Q. Is that a good well?

A. Yes sir, has been a good well.

Q. And what is the rock pres-ure of that?

A. I think it was something over four hundred, or along about there, when it was drilled in; it is reduced some but not as much, accordingly, as the others.

Q. And how many acres of lease did you have?

A. About thirty-two.

Q. Have you drilled any additional wells there?

A. Yes, we have another small piece, we drilled another well on it; it is ready to be plugged now.

Q. That was not much of a well then?

A. No sir; never made over one hundred thousand.

Q. And was that near to yours?

2823 A. Something like a half-mile away.

Q. From your Number——

A. One, McIntyre.

Q. Number One, McIntyre?

A. Yes, but it is in the fifth sand.

Q. You got nothing in the thirty foot?

A. Nothing.

Q. And in the fifth sand you got a comparatively small well?

A. Yes sir.

Q. And how many years did you use it?

A. Used on it about three.

Q. And then you practically abandoned it?

A. Yes sir.

Q. Because the production had gone down to such an extent, was not worth while trying to use it?

A. It won't feed itself into the line; would have been plugged before this if we could have got the help.

Q. I understood you to say that your main line was five and three-sixteenths on the Cunningham farm?

A. That is about three mile of it is; we bought in the first place about one mile of three-inch line, and about three miles of two-inch line; later on we took up the two-inch line and replaced it
2824 with the three and five-sixteenths.

Q. And what is the size of the line connecting the wells with this five-inch line?

A. Some of them are three inch and a part of them two inch at the wells.

Q. And what distance is the gas conducted from these wells through this five-inch line?

A. To the town.

Q. No, not to the town, distance from the well the five-inch line?

A. One of them I think is about three miles and the other probably four and a half.

Q. Now then, if I understand you correctly, then, the gas is conducted four miles, you said?

A. That is to the first well, and then we have another one two miles back, one about a mile and a half or two miles farther back.

Q. And it is conducted then through these two-inch and three-inch lines for a distance, that distance, up to the five-inch line?

A. Yes sir—no, pardon me, conducted through the five and three-sixteenths up to the three, and the three is next to
2825 the town.

Q. How long is the three inch line?

A. About a mile, I think, it runs through the main street of the town.

Q. And how long is the two inch line that connects with the well?

A. No distance at all, not over twenty or thirty feet.

Q. From where?

A. From the line up to the well, the main line starts at one well and goes on to the others.

Q. And what is the longest distance, then, that the gas is conducted through the two inch or the three inch line from the well, if you can recall?

A. From the well until it strikes the main line?

Q. Yes.

A. I would not think any of them over thirty feet, and they may be closer than that.

Q. Then it is conducted through the five inch line to within what distance of the town?

A. There was one mile of three inch line next to the town and what goes through the Main Street, I don't know what.

2826 Q. In other words the three inch line connects with the five and three-sixteenths, and that extends about a mile to the borders of the town?

A. Yes sir.

Q. And then it passes through the town, through the three inch line in the center of the town?

A. Yes sir.

Q. And is distributed from that to smaller lines, I suppose, on different streets?

A. Yes sir.

Q. I believe you said on account of the condition of your company, etc., you were not able to put in a compressor station?

A. Yes sir, we didn't feel we were able to go to that expense for a little while.

Q. While the pressure was down on some of these wells, as you testified this morning there was still a considerable volume of gas that could have been utilized if you had had a compressor station, was there not?

A. I think there would have been, yes. Of course we figured partly, if we put a pump on, it would simply take the life out of the well that much quicker, would not last so long as natural flow. Of course a well in the thirty foot sand,—no well we know of has
2827 gas in the thirty foot,—is the best well we have got; holding up steadily.

Q. When was the Lumberport Company organized?

A. I don't believe I know. I would judge, though, twelve or fifteen years.

Q. That was, you would say, perhaps six or eight years anyway after the organization of the Home Company, would not you, or maybe more?

A. I don't remember when the Lumberport Company was organized.

Q. Well, it was some years after the Home Company?

A. Yes, I think it was some little after that.

Q. And where did they get their territory?

A. I think they got it upon Jones' Run and in above Lumberport and up in there.

Q. And how far was that from Shinnston?

A. It is three miles from Shinnston to Lumberport. Of course I don't know how far they went above there. I know they have some teritory on Lambert's Run, that is over six miles from Shinnston—one well there.

Q. And they have a pretty good gas supply, I think you stated, the Lumberport Company?

A. I don't know anything about their line much.

2828 Q. Their territory which they acquired was within, you would say, five or six miles of Shinnston?

A. Yes, that much anyhow; maybe farther.

Q. And do you know how many wells they drilled or how much territory they hold?

A. No sir, I don't — anything about how much territory or wells either.

Q. Do you know when they acquired that territory?

A. No sir.

Q. It was just about the time they were organized, wasn't it?

A. Well, I don't know about that. I couldn't say, because I was never connected with the company and never knew anything about their holdings.

Q. Where were the Jake Schaffner wells?

A. Jake Schaffner has one well on a three or four acre tract on the edge of town there.

Q. How many has he?

A. Only one there, and then he has one up the Pike, nere the Cemetery, on a piece that belongs to a man by the name of Emory, I think, no, on the Williams farm.

Q. That is right in the town, isn't it?

A. About a mile and a half or two miles.

2829 Q. Has he got any more except those two wells in the vicinity of Shinnston?

A. Not that I know of.

Q. Did you make any effort to buy the gas from those wells?

A. The one well that he has in the edge of town, we bought off of that one year; but there was so much water and oil in it, it gave us trouble; got our lines filled up and we had our lines to take up once and drained the water, and that is within three hundred yards of where we drilled our first well. If our first well had of been good, probably we would have tried to get a lease.

Q. Did you make any effort to obtain the gas from his other well?

A. His other well I think is an oil well.

Q. Isn't that a gas well also?

A. It might furnish some gas.

Q. Does not Mr. Schaffner sell gas from both of these wells at the present time, and after you refused to take it any longer from his one well, to the Hope Natural Gas Company?

A. I don't know about that.

Q. Don't you know he is selling it to them at the present time?

2830 A. In January, I hauled tools and rigs up to those wells to have them up there to clean them out; and what he has done with them since that I don't know. His equipment to clean them out.

Q. Do you know of an operation of Mr. Shaffner about three miles from Shinnston, Schaffner and certain other parties about three miles from Shinnston, where he is getting production, two or three wells?

A. There is about four wells, three or four wells, about four miles from Shinnston that belongs, as I understand, to Mr. Crawford and Mr. Ben Anderson. Schaffner might have been interested in them.

Q. Did you make any effort to buy the gas from these wells?

A. No, sir, because we would have to lay lines to get to them.

Q. About three or four miles of line, it would take?

A. Four miles of line.

Q. Those are pretty big wells, aren't they?

A. I think they were good wells when drilled in, I don't know how they are at the present time.

Q. Don't you know those wells were considered large gas producers at the time they were drilled in and still continued to

2831 be, and that they are now selling their gas to the Hope Natural Gas Company?

A. No, I don't know who they are selling to. I know they were tolerably fair wells at the time they were drilled in, and I think one

or two of them make some oil. We had that matter up in our meeting once, but we figured the expense of the line too great.

Q. Then you concluded you would not make any effort to obtain the gas because of the cost of making that three or four miles of pipe to those wells,—the cost to your company?

A. Yes sir.

Q. You could not afford that investment?

A. We did not deem it advisable at that time.

Q. Did you at that time consider what it would have cost to have laid that line?

A. Yes, I think that was kind of figured on.

Q. And what is the size of the line that you figured on?

A. I think about a four inch line.

Q. What did you figure that line would cost?

A. I don't remember now.

Q. Can you give us, approximately, what are the figures, to the best of your recollection, if you have any recollection?

2832 A. I could not give anyways near it now, because we made a kind of an estimate at that time. I couldn't tell you anyways near what it would cost.

Q. It would not have required over three or four miles of four inch line?

A. At least four to the first well; they were nearly a mile apart.

Q. Then it would have required from four to five miles of quarter inch line?

A. Yes sir.

Q. And you figured the company could not afford to lay that line?

A. Yes sir.

Q. You could have acquired the gas at that time, if you had laid the line and wanted to?

A. I don't know that we could have acquired the gas, but the matter was up to see about it; it might have been we would not have been able to have got the gas?

Q. You did not make the effort to get it because you concluded you didn't want to lay the line?

A. Yes sir, that is about it.

Q. That is about it?

2833 A. Yes sir, we had to try to keep within bounds of the cost.

Redirect examination.

By Mr. Steptoe:

Q. Can your company go out some distance in the field and purchase gas and get it transported to your line, by any of the pipe line companies?

A. I don't know any place at the present time, unless it would be some small well that was too light to go into some of the bigger lines.

Q. I don't believe you understand me: I am not speaking with reference to the availability of territory, but as to whether or not you can get any of the pipeline systems or other companies to take your

gas that you may deve-ope some distance away, to Shinnston, and deliver it through lines to your system near Shinnston—has that been done, to your knowledge?

A. No, never been done as I know of. I will say this: I tried to buy the well of my own that they plugged, near my house, a short time back, so as to have a little gas for myself, and my company, but the Hope won't sell it.

Q. Do you know whether or not the larger companies that
2834 you have mentioned have ever made a practice of exchanging gas with local companies like yours?

A. No sir, I don't know of any.

Q. That is to say, could you or your company, getting a well in Marion County, close to their system, arrange with one of those companies to take the gas from that well, and deliver you an equal amount at or near your system at Shinnston?

A. No sir.

Q. Have you ever known of it being done?

A. No sir, I don't know of anything of that kind could be effected at all.

Q. Have you ever tried to purchase natural gas from the larger companies you have mentioned?

A. I think Mr. Hardesty, our president, one time went to see about it, with the Hope people in Pittsburgh, and they didn't want to sell him any. I don't think I ever went myself.

Q. Do you know whether or not your company would be able to purchase any gas from those companies now?

A. No, I don't know of any way you could be able to purchase any.

Q. But you never made any recent effort?
2835 A. No, no recent effort.

Q. And, as I understand you, you estimate the gas supply of your company will possibly last a couple of years?

A. We think it will last that long, and maybe a little longer than that; at the rate it is going, of course, it will largely depend upon the winters.

Recross-examination.

By Mr. Weil:

Q. Mr. Short, I forgot to ask you, there is an oil field near Shinnston, is not there?

A. Yes sir.

Q. About how far?

A. It is about three miles to the first well.

Q. How near is that to the gas field?

A. Right square on the opposite side.

Q. Adjoins it?

A. I mean on the opposite side of town; the gas field *in* on the west and the oil field on the east.

Q. Are any of these gas wells near the oil field?

A. Yes, a few gas wells near this oil field, in the edges of it.

Q. Do you know whether or not the operations in the field
2836 affected the pressure of the gas in the gas sand in that section—in that whole section?

A. I know of one well in the edge of that oil field, some parties had at Grafton, that wanted to sell it to us; we had the matter up and had a meeting with them, but upon investigation we found it was very light and was going down.

Q. The oil field is producing oil, isn't it, in the fifth sand?

A. I think the majority of it out there was struck in the fifty foot?

Q. Were not some of these oil wells drilled into the fifth sand?

A. I think so.

Q. And they produced gas as well as oil?

A. Some of them, yes sir.

Q. Practically all oil wells produce some gas?

A. Only a few of them, I think, out there.

Q. Don't you always get some gas with the oil?

A. There may be a little casing-head gas, is all I know.

Q. But some of these wells, you say, did produce gas with the oil?

A. A small amount, I think.

2837 Q. And you don't know what effect that has had upon the rock pressure of the gas wells in that vicinity?

A. No, I never have tested for this in that section very much, that is to test a well out; this one well, I know we were about to take, we had it tested, and it was reducing and therefore, we didn't buy it, and they had to plug it.

Q. You found that was on account of the operation in the oil field, I suppose?

A. I think so.

Q. That is, you attribute it to that?

A. Yes sir.

E. D. LEWIS, called as a witness, having been first duly sworn, testified as follows:

Direct examination.

By Mr. Steptoe:

Q. Mr. Lewis, what official position, if any, do you hold in connection with the Public Service Commission of West Virginia?

A. I am a member of the Public Service Commission.

Q. How long have you been a member of the Commission?

A. Since the 1st day of June, 1919.

2838 Q. As a part of the testimony of the plaintiff in this case, Mr. Samuel S. Ware testified, and I direct your attention to a statement of his, as shown on printed page 944 of the testimony, where, in the course of developing his theory about the doing away with industrial gas, he is asked how that is to be brought about, and replies as follows:

"A. The easiest way to bring it about will be to carry out the co-operative scheme that has been put in operation between the five State Utility Commissions; that is, between the Utility Commission of West Virginia, Maryland, Pennsylvania, New York, Second District, and Ohio, where the fundamental object is to handle the situation for all five states as a unit without preferential advantages to any state, merely a fair and equitable handling of a resource situation."

The rest of his answer is elaboration as to the method. I hand you now the testimony referred to and call your attention to that answer. I want to ask you if the Public Service Commission of West Virginia has entered into any such co-operative scheme as is there mentioned with reference to the handling of the gas of the five states as a unit?

A. No sir, it has not. What has been done by the West Virginia Commission with respect to the curtailing of the use of gas has been independent. I believe the only thing, with the exception
2839 of one case, was by a general rule, which we required utilities to discontinue the use for industrial purposes, where it was required for domestic purposes; that rule has been in effect for some two or three years or longer. In one instance, and that was the West Virginia Central Gas Company and its affiliated companies, there is an order restricting the use of the gas for industrial purposes, but that was not brought about by any joint action on the part of these several Commissions, nor was our rule brought about by reason of any joint action of the several Commissions. In other words, such rules and regulations as the Public Service Commission has promulgated and enforced, has been in reference to the State of West Virginia.

Q. And the companies and the surface under its jurisdiction?

A. Yes sir.

Q. Has there been any such co-operative unti scheme of service adopted at any time by the Public Service Commission of West Virginia?

A. I would say not. There were some meetings held, at which the several Commissions were represented, and probably gas operators; the meetings, as I understood it, and as we always
2840 understood it, was not for the purpose of handling the gas of these five several states, as a unit, but was more for the purpose of enlightening the several Commissions as to what was the better plan of handling gas cases in the gas situation. I believe, except the appointment of a Committee and the meetings and the discussion of those matters, there has been nothing done further than an effort to have the Committee report back to the Several Commissions. I believe the Committee did not all sign that report, and the report has not been made to the several Commissions.

Mr. Weil: We have no cross examination.

GEORGE W. WILSON, called as a witness, having been first duly sworn, testified as follows:

Direct examination.

By Mr. Steptoe:

The Commissioner: Make the note Mr. Wilson was subpœnaed under the subpoena copied, which is last above laid on the transcript.

Q. I believe you are a resident of Weston and associated in business with Charles M. Snaith, who testified early today?

A. Yes sir.

2841 Q. Have you been in the oil and gas business many years, and if so in what way?

A. I have been in the gas business probably about ten years.

Q. What did you do prior to that time?

A. I was in the oil business a little bit and real estate business.

Q. Were you ever a driller of wells?

A. No sir.

Q. Is your knowledge and experience of the production of natural gas confined to the last ten years or so?

A. Yes, it is as to gas. I never had any experience in gas until the last ten years.

Q. In what natural gas enterprises are you interested and have you been interested during the last ten years?

A. I am interested with Mr. Snaith in this thirteen hundred, seventy-eight acres, and have a little gas well on the hill right near Weston, of my own; possibly another party has a little interest in it; and I have another little interest in Freeman's Creek.

Q. All those localities are in Lewis County, are they not?

A. All in Lewis County.

2842 Q. I believe Mr. Snaith stated that you and he acquired the thirteen hundred acres lease along about 1912?

A. Yes sir, along about 1912 we acquired it.

Q. Where do you market the gas from that well you have in close proximity to the City of Weston?

A. To the home company.

Q. To what company?

A. Keener Oil and Natural Gas Company.

Q. That is how close to the City?

A. It is just outside the city. Have a line possibly, I think nine hundred and some feet away from the well.

Q. You speak of a holding in Freeman's Creek District. Where is the gas from that well or lease marketed?

A. To the Hope Gas Company.

Q. How far is that from the City of Weston?

A. I judge that is seven or eight miles.

Q. Have you any other market for the production of that well except to the Hope Natural Gas Company?

A. Mr. Snaith and I bought that interest just a few years ago, and I think it was all contracted to the Hope Gas Company, still contracted.

Q. Have you some familiarity with the gas territory of
2843 Lewis County and the operators in that county and Braxton and Gilmer?

A. I don't know so much about them in Braxton and Gilmer. I know some of the operators in Lewis County and some in Braxton.

Q. Are there many independent producers in Lewis County?

A. Not many.

Q. Are there as many as there were in prior years?

A. No, I would say not.

Q. How do you account for that, the lessening of the number?

A. Well, I would not know, quite a few drilled wells and sold out, sold the leases.

Q. To whom?

A. To the larger companies.

Q. To whom, as a general rule, do the independent producers market their gas?

A. Well, to one of the four companies, I judge, the larger companies, the Hope, Reserve, Pittsburgh & West Virginia and the West Virginia Central.

Q. In the case his holdings are not in the immediate vicin-
2844 ity of some city or community, what market has the independent producer for his gas?

A. I don't think he has any market only to the larger companies.

Q. Are their terms of sale and practice fixed by agreement?

A. Yes sir.

Q. We have had some discussion as to whether or not the pipeline companies, that is to say, the larger companies you have mentioned, which have pipeline systems, will or will not transport the natural gas for producers in the field. What is your knowledge on that subject?

A. I never asked them to, and I could not answer that intelligently, for I do not know. I have never known them to do it.

Q. Do you know of their exchanging gas?

A. I know of them exchanging gas, a couple of the larger companies exchanging gas, have been this winter, that is from hearsay. I don't know it to be a fact.

Q. By exchange, I mean in this sense: Will they purchase gas from you or any independent producer like you, out in the field, and sell or deliver an equal quantity in their line to some person
2845 that you will sell to?

A. I could not answer that. I don't think they would, but I never asked them.

Q. You have never known of any such incidence?

A. No.

Q. Is there any other way by which you could get your gas to Weston save by in their pipeline?

A. That is the only way I know of.

Q. And is it justifiable from the size of your holdings, to lay such a line?

A. I would not think so.

Q. What is the situation in Weston now with reference to the supplying of domestic consumers?

A. In the last two winters, I think it is rather scarce.
Q. Would you call it an adequate supply?
A. No, I would not.
Q. Any prospect of its improving?
A. I didn't see any and don't know of any.
Q. Do you know of a Carbon Plant somewhere near Weston, the Columbia Carbon Company?
A. I know of them, yes sir.
2846 Q. Did they ever have a plant and manufacture carbon there, in the past years?
A. Yes sir.
Q. Is it manufacturing carbon now?
A. Not near Weston. I think they had a carbon plant quite a distance from town.
Q. Do you know whether or not that plant is using its gas to manufacture carbon or has disposed of it?
A. I can't answer that question.
Q. You mean by that you have no direct knowledge personally?
A. No, I have not.
Q. But, isn't it generally understood that gas is being sold by the Carbon Company to the local company furnishing Weston?
A. That is my understanding; they had a carbon plant near Weston that they dismantled.
Q. Then the gas territory of that carbon plant and its production of gas is being sold to a local company, and that is where the local company gets its supply?
A. That is my understanding.
Q. Do you know whether or not the local company has any territory or production of its own?
2847 A. Not to my knowledge.
Q. Do you know from what source it obtains its supply of gas prior to contracting with the Carbon Company?
A. As I remember they got it just previous to contracting with the Carbon people, from the Hope.
Q. And prior to that?
A. Prior to that they got it from the Clarksburg Light & Heat Company, is my understanding.
Q. Outside of what you have stated, I assume that your experience and knowledge is substantially the same as that of your partner, Mr. Snaith, who testified this morning?
A. Practically so, yes sir.
Q. You heard his testimony?
A. Yes sir.

Cross-examination.

By Mr. Weil:

Q. Mr. Wilson, the cost of operating for oil and gas, that is, the drilling of wells and laying of lines, has enormously increased within the last few years from what it was formerly?
A. Yes sir.

Q. While formerly wells could be drilled for around, from
2848 three to five thousand dollars a well, it now costs substantially from ten to fifteen thousand or more?

A. Yes sir, I understand so.

Q. That is about the fact, isn't it?

A. Yes sir.

Q. And it takes very considerable capital these days for any man to engage in the business of oil and gas production?

A. Yes sir.

Q. If he does not have that capital, or credit, he cannot engage in the business?

A. No sir.

Q. Is not that the explanation in part of why there are fewer producers now than there used to be?

A. I suppose that has something to do with it.

Q. Formerly, where a man would obtain an oil and gas lease that looked reasonably well, or the prospects of which were good, he could generally get enough people in with him, or enough credit, to get down a well, could not he?

A. Yes sir.

Q. You know of that being done lots of times?

A. Yes sir.

2849 Q. But these days where it requires such a very large amount of money, it is a very different proposition, isn't it?

A. Yes sir, it is.

Q. You know that from your own experience, don't you?

A. Yes sir, from experience at the present time.

Q. From your knowledge of the business, has not it been the general custom in the oil and gas business, for the independent producers to go into a field, when the oil and gas developments begin, and drill in that field, and when they obtain a production, sell that production or their leases, as the case may be, or the wells, and then move on to the front, and follow up the production in that way?

A. That is done very often.

Q. Has not that been the general custom so long as you have known anything about the oil and gas business?

A. Yes sir.

Q. The oil and gas producers are like the old-fashioned miners in the West, they follow up the new discoveries, don't they?

A. As a general thing, they do, those that stay in it.

2850 Q. Yes, those that do not go broke. There is a pretty vigorous competition, is there not, between the Hope Company, The Pittsburgh & West Virginia Company and the West Virginia Central Company, to obtain the gas production from any of the independent operators in any of the fields in which those companies have lines?

A. Outside of the company, the Pittsburgh & West Virginia and the Hope Company, there has been considerable competition, but I don't think the West Virginia Central is much of a competitor, I don't think they ever contracted much gas.

Q. There is a competition between the Hope and the Pittsburgh & West Virginia?
A. Yes sir.
Q. You understand that those companies are competitors in the respective fields where they have lines, for the purchase of gas from those who have gas to sell?
A. Yes sir.
Q. When the contracts which you and Mr. Snaith had with the Hope Company, for the gas from your thirteen hundred-acre lease, that has already been referred to, run out, according to its terms, did not the Hope Company pay you for that gas from the inception of that contract, at the rate of twelve cents?
2851 A. Yes sir.
Q. Although the contract did not actually become executed until some time afterward?
A. The contract ran out in October, 1919, the first day of October, and we could not contract possibly for a year after; well, it was about this time of year though that we contracted; and they paid us the twelve cents back until the time the old contract ran out.
Q. So that upon the expiration of the former contract you obtained twelve cents from that time on?
A. Yes, we just let the old contract run; we didn't contract until about a year ago.
Q. But delivered them the gas?
A. But delivered them the gas at the old price of five cents, and they paid us the difference in the new contract.
Q. At the time that contract run out, gas was selling at Weston at what price, for industrial consumers?
A. At the time that contract ran out?
Q. Yes sir, the first contract.
A. 1919?
Q. Yes sir.
2852 A. As well as I remember, I think it was twenty-two cents, I think it was twenty-two cents, I would not be positive.
Q. That is to industrials?
A. Yes sir.
Q. And what price to domestic?
A. Well, that was domestic. I don't know what the industrial price was.
Q. That twenty-two cents was domestic?
A. As I remember it.
Q. And of course it would be less at that time to industrial? But you don't remember what it was?
A. I don't remember what it was, if I ever knew.

Redirect examination.

By Mr. Steptoe:

Q. I understand you to say there is not any competition now between the Hope and the Pittsburgh & West Virginia Company?
A. No, not the Pittsburgh & West Virginia, the West Virginia

Central. I don't know of any contract they have made in Lewis County; they may have made some I don't know about. I don't follow that.

2853 Q. You mean the West Virginia Central has no contract to purchase the gas that you know of?

A. Not that I know of.

Q. Are there lines anywhere near your lease?

A. No, quite a ways from ours.

Q. Did you make any effort to sell to them?

A. I spoke to them one time, yes, and they were not interested.

Q. Are the lines of the Pittsburgh & West Virginia Gas Company anywhere near your lines?

A. Line right through the lease.

Q. Has the Pittsburgh & West Virginia Gas Company made any effort to buy your gas?

A. Yes, I was in to see them probably twice,—they sent for me,—but I didn't deal with them.

Q. Was there competition between them and the Hope in the matter?

A. I think I did better with the Hope.

Q. And you have always been with the Hope Company?

A. Yes, sir.

Q. Has there always been active effort with the pipeline companies to buy the gas of an independent producer?

2854 A. I know that in a case I had,—I can only speak from personal experience—any case I had I always had from both of them.

Q. Both were willing to take?

A. Yes.

Q. You refer now to the companies that you testified about on direct examination?

A. Yes.

2855 VANCE L. HORNER, called as a witness, having been first duly sworn, testified as follows:

Direct examination:

By Mr. Steptoe:

Q. Where do you reside?

A. Lumberport, West Virginia.

Q. How old are you?

A. Forty-five years old.

Q. Have you lived there all your life?

A. About.

Q. Is that in Harrison County West Virginia?

A. Yes.

Q. Have you ever been interested in the oil and gas business?

A. Yes.

Q. How long?

A. Since 1907.

Q. Tell us, briefly, the extent of your connection with the gas business in the way of production and marketing.

A. I am connected with the Lumberport Gas Company as Vice President, and President of the Shinnston Gas Company, and President of the Eagle District Gas Company, and Manager of the Eagle District Gas Company, and Manager of the Horner Gas Sup-
2856 ply Company, and have some outside wells in partnership with the Shaffner Brothers.

Q. Taking those companies and interest separately, state when the Lumberport Gas Company was started.

A. I think in 1907.

Q. Was the personnell of your company local?

A. Yes sir.

Q. What communities or town does the Lumberport Gas Company serve?

A. They serve Lumberport, Haywood, Erie, and Hepzibah, a number of little towns around.

Q. All of those town- are within a radius of four or five miles of Lumberport, are they not?

A. Yes sir.

Q. Do you supply both domestic and industrial consumers?

A. We have one industrial consumer only.

Q. What is that?

A. Glass factory.

Q. Give us the name of it and where it is located.

A. Mountain State Glass Company, Lumberport.

Q. That is the only industrial that you serve, and the rest of its service is to domestic consumers?

A. Yes sir.

Q. Where is its territory located and what is its extent?

2857 A. They don't have much territory; only have, five wells and have thirty-seven acres of territory drilled on.

Q. Are there five wells on one tract of thirty-seven acres?

A. No, scattered; the biggest tract is twenty-eight acres, has one well on, and another tract about six acres one well on, and other three wells are on acre pieces.

Q. Where are those tracts and wells located with reference to the town of Lumberport?

A. Two of them in the corporate limits of Lumberport and one about a mile out of Lumberport, and one at Haywood West Virginia, right across the river from Lumberport, and one out on Lamberts Run, about three miles from Lumberport.

Q. I neglected to ask you if you had the same stockholders in all four of the companies mentioned, the Lumberport Gas Company, The Shinnston Gas Company, The Eagle District Gas Company and The Horner Gas Supply Company.

A. No sir, they are not all; some in one that are not in the others.

Q. They are all corporations?

A. Yes sir.

Q. And in addition to that you are interested with Schaffner Brothers in one or more?

A. Yes sir.

Q. Is the Lumberport Gas Company able to supply its consumers from the five wells and small territories you mention?

A. Yes sir.

2858 Q. Does it buy gas, and if so from whom?

A. They buy gas from the Horner Gas Supply; they buy gas from Schaffner Brothers; they buy gas from Schaffner & Horner; they buy gas from J. N. Coletrain; and they buy gas from The Eagle District Gas Company.

Q. Where are those vendors, that is the people from whom the Lumberport Gas Company buys, located with reference to the town of Lumberport, close to it.

A. The wells?

Q. Yes.

A. They are within a mile and a half or two miles of Lumberport, both of them.

Q. Are the holdings of those various producers mentioned, take the Horner Gas Supply Company, what territory and wells has it?

A. I think they have about eighty acres.

Q. And how many wells?

A. Five wells.

Q. All territories developed?

A. Yes sir.

Q. How about Schaffner Brothers, does the Lumberport Company buy from one or more wells belonging to them?

A. Yes sir.

Q. What leaseholds have they?

A. It has about ten or fifteen acres; maybe not so much.

2859 Q. And how about the territory and wells of Schaffner and Horner?

A. I think they have about thirty-seven or thirty-eight acres; something like that.

Q. And the territory and wells of Coletrain.

A. At first I think probably three or four acres in what we are buying from Coletrain; we have t-ree wells we are buying from Coletrain, on the creek bank, and a middle strip along between the railroad and the creek we have leased and then we have an old school house property, we own a quarter in it.

Q. How about the Eagle District Gas Company?

A. I think they have about one hundred sixty acres, I wouldn't say.

Q. Is that in one body or in scattered leases?

A. Scattered.

Q. By what power, pressure, is the Lumberport plant operated?

A. Natural pressure.

Q. You have no pump station or booster station?

A. No sir.

Q. Do any of the companies, or any one else that you have named, and from which the Lumberport Gas Company is purchasing have pump stations or pumps?

A. No sir.

Q. Are the wells and the territory and the purchased con-
2860 tracts you have mentioned, all of the gas and gas supply that the Lumberport Gas Company has? To be more specific, has the Lumberport Gas Company any territory other than that mentioned or does it purchase from any other people?

A. They have two small pieces of territory that are not drilled.

Q. How much is that acreage and where located?

A. I don't know the size, something like forty acres, on the head of Dolan's Run, about forty acres about four miles from Lumberport; and the other piece about a mile and a half up Tenmile Creek from Lumberport, about an acre, I think it is, or two or three acres; something like that.

Q. Has that been recently acquired, those two parcels?

A. Well, we have had them for five or six years, I think; maybe not so long.

Q. Now, with respect to the Shinnston Gas Company, where does it serve?

A. Shinnston.

Q. Were you present when Mr. Short testified?

A. Yes sir.

Q. Is that the Company he referred to sometimes as the Shinnston Gas Company and sometimes as the Consolidated Company?

A. Yes sir.

2861 Q. How long have you owned that?

A. I think we have had it, this April will be two or three years.

Q. How did you acquire it?

A. We bought it before the Court.

Q. To be brief, the Shinnston Gas Company was sold at the instance of creditors and Coletrain bought it for you and your associates?

A. Yes sir.

Q. How many consumers has it in the Town of Shinnston?

A. When we bought it I think eighty, and I think we have about sixty now.

Q. How much territory, wells and production, has it?

A. They have two wells, one is a town lot and the other is about an acre, and they buy gas from the Coletrain Oil & Gas Company.

Q. Is that a local enterprise in Shinnston?

A. At Haywood Junction, the Coletrain Oil & Gas Company, which I bought it the 31st day of December.

Q. And how much is that?

A. Two and one-half acres.

Q. That is the supply of the Shinnston Gas Company?

2862 A. Yes, they have two wells that they buy from.

Q. Now, the Horner Gas Supply has what territory and what wells?

A. It has five wells and I think about eighty acres of territory with wells on.

Q. Where does it market and what consumers does it supply?

A. One well they sell the gas to the Lumberport Gas Company, and the other four wells to the Monogahela Valley Traction Com-

Q. Where is its territory located and the wells now sold to the Lumberport Gas Company?

A. It is right out about five hundred feet outside of the corporation of Lumberport.

Q. And where are the four wells, the products from which is sold to the Monongahela Valley Traction Company?

A. Two of them are on the head of Robinson's Run—we call that the Rosetta Robinson, about three and a half or four miles away from Lumberport; and the other two on the Boggess farm, about the same distance from Lumberport, up Jones' Run.

Q. Was there any pipeline connection between those last
2863 mentioned four wells and the lines of the Lumberport Gas Company?

A. No sir.

Q. No way of getting in through except by the way of l-ying pipeline?

A. That is all.

Q. Would it be practical or feasible, from a financial standpoint, taking into consideration the size and production of the wells, to pipe that to Lumberport?

A. No, they would not have the pressure to get it to Lumberport.

Q. Would the production justify the installation of a pump station and the line?

A. I don't think so.

Q. Now, what community or consumers is supplied by the Eagle District Gas Company, if any?

A. They have any arrangement with the Hope Natural Gas Company, to use what—they have the privilege of selling what gas the Lumberport Gas Company needs, first, and the Hope Gas Company takes what they don't use.

Q. Let's see if I understand you? The Eagle District Gas Company does not supply any consumers direct, but sells to the
2864 Lumberport Gas Company and the Hope?

A. Yes sir.

Q. And the gas which it sells to the Hope Gas Company is such excess of production as is not needed by the Lumberport Gas Company?

A. Yes sir.

Q. How far away is this territory from Lumberport, Haywood and the other towns?

A. Two wells in Lumberport and five wells within a mile and a half of Lumberport; they have two wells on Robinson's Run, anywhere from two to three miles and a half, the first one is about two and the last one about three and a half miles from Lumberport: they have one well near Dola, West Virginia, and one well between Dola and Rosebud, and one at Dola would be about six miles from Lumberport, and the other would be about four miles.

Q. Are all of the wells of the Eagle District Gas Company connected by line with the wells of the Lumberport Gas Company?

A. No.

Q. How many are?

A. I think there is nine connected?
2865 Q. And how many not connected?
A. Three.
Q. Where are those three located?
A. One on the head of Robinson's Run, one close — Dola and the other between Dola and Rosebud.
Q. What do you do with the gas from those wells?
A. Sell it to the Hope Gas Company.
Q. Has the gas from those ever been sold to the local company, that is the Lumberport Gas Company?
A. No, they have the right to use that if they can get to them.
Q. How far is it from the lines of the Lumberport Gas Company to those three wells?
A. Two of them I would say three miles apiece, and other about four or five miles.
Q. Let me ask you if it would pay, as a financial proposition, to lay a pipeline from the Lumberport Gas Company lines to those wells, in view of the amount of production from them?
A. We have figured on it several times, but never thought it was, or we would have laid to them.
Q. Let me ask you if the pressure and volume would have to be taken into consideration, if the laying of a line from the
2866 Lumberport Company's plant to these wells?
A. Yes sir.
Q. Now, is the pressure and volume of those three wells or any one of them, sufficient to justify you in laying the line?
A. No sir.
Q. You mean to say by that that the rock pressure is not sufficient to transport any appreciable amount that distance?
A. Not only that, but the wells have fallen off in size.
Q. Has the Lumberport Gas Company at any time had difficulty in supplying its consumers?
A. Yes sir.
Q. How long?
A. Well, we have had trouble for the last three or four years, on the outlying, such as Erie and Hepzibah and places like that.
Q. Do you know whether there are any companies having productions or lines near those outlying towns you mentioned, and if so, what? Take Erie, for example.
A. The Hope and Philadelphia and Grasselli Chemical Company.
2867 Q. Did you make any effort to buy from those companies at the point of shortage you have mentioned?
A. I don't know that we made any effort to buy. We tried once to exchange gas, take it in exchange with the Hope.
Q. Just what do you mean by exchange, what was your proposition?
A. We figured we had gas, and our lines was too small and pressure too small to get it to Erie, and we asked the Hope to give us connections to Erie and take what gas we used there off of our bill; in other words.
Q. Were you at that time selling gas from any of your wells to the Hope?

A. Yes sir.

Q. Why could not you utilize that amount?

A. We could not get it distributed around with the natural pressure.

Q. Were you at that time selling to the Hope Gas Company from the three wells you mentioned awhile ago as not connected with the system of the Lumberport Gas Company?

A. Yes sir.

Q. Then, substantially, your proposition was to have the
2868 Hope give you an equal amount of gas at Erie, for a sufficient amount to take care of your consumers there?

A. Yes sir.

Q. I understand you to say you could not make that arrangement?

A. No sir.

Q. Now, the acreage you have mentioned as being held by the Lumberport Gas Company and the Shinniston Gas Company, the two companies which seemed to be engaged in supplying the public, was quite small. Let me ask you why your company has not acquired a larger acreage.

A. It has been expensive to acquire, and about all we could get would be some the Hope and Philadelphia had drilled on and surrendered it, and we have gas selling to other companies, we figured we would use when the contracts are out.

Q. Have you at any time taken up leases throughout Harrison County, scalping them, as it is commonly called?

A. Yes sir.

Q. Have you some degree of familiarity with Harrison County and the section surrounding Lumberport, with reference to gas territory or gas leases?

A. Yes sir.

2869 Q. Let me ask you if there has been any considerable body of gas land that has been open in the last few years.

A. None to speak of; might get a small piece here and a small piece there.

Q. That is to say, small and scattered?

A. Yes.

Q. What are the principal companies holding territory in that section and operating it?

A. Pittsburgh & West Virginia, the Carneigie and the Hope.

Q. Have each of those companies pipeline systems in that section?

A. Yes sir.

Q. Pump station?

A. Well, they all have pump stations, yes sir.

Q. How long has it been since any gas territory was available in that section, to be taken up?

A. I don't know that there has been but very little since 1910 or 1912; something like that.

Q. Was there much available when your company started out in 1907?

A. I don't really remember. I took several leases after
2870 our company was organized, that is, after 1910 or '11; something like that.

Q. That is, some leases you have now and referred to?

A. No, I took other leases, but not in our immediate territory.

Q. Well, were the leases you took up together or scattered?

A. Scattered.

Q. I want to ask you now with reference to 1907, and before that, whether there was available any considerable body of territory. I do not refer now to scattered leases here and there.

A. Yes, there was one piece of seven or eight hundred acres, I think it was, I took the lease, but it was too extensive for me to handle; they wanted a well on every twenty-five or thirty acres, I think it was.

Q. Where was that?

A. Mr. E. F. Rogers on Jones' Run.

Q. Had that ever been under lease before?

A. I think so.

Q. It got loose and you took it up?

A. I don't remember who had it, but I am satisfied that it was under lease.

2871 Q. Speaking generally now about that section, how long has it been under lease for oil and gas purposes?

A. Since 1900 anyhow, and longer than that. I can't remember back that far.

Q. But what could be had since 1900 is here and there, scattered leases?

A. Yes sir.

Q. Have you had occasion to estimate how long the Lumberport Gas Company, with its present supply you have mentioned, will be able to take care of its domestic and industrial consumers?

A. It is owing to conditions: if the same conditions remain, probably take care of them four or five years.

Q. What do you mean by changed conditions?

A. If they put all the country on a vacuum, we cannot supply our consumers.

Mr. Weil: What?

A. If they put the community on a vacuum, we cannot supply our consumers very long.

Q. Are any of the companies taking gas on a vacuum, in the vicinity of Shinnston and Lumberport?

A. Yes sir.

Q. What company?

2872 A. The Carneigie.

Q. Explain a little more fully what you mean by taking gas on a vacuum.

A. If you have to shut the well in for the pressure to build up, they are taking it at more than atmospheric pressure.

Q. To put the matter briefly, is this what you mean? That the Carneigie Company, through its pump station, is taking gas from the well at less than atmospheric pressure?

A. Yes sir.

Q. Are any of the leases or territory of the Carneigie Natural Gas Company in the immediate vicinity of the holdings you are interested in?

A. Yes sir.

Q. What effect, if any, has that had on your adjoining well?

A. The rock pressure is about all gone; the volume is getting mighty small.

Q. Did you make a test of a well to ascertain that fact?

A. We test our wells quite often, and we also can tell by the check,—the money we receive.

2873 Q. Is that the way you ascertain that the Carneigie wells are on suction or vacuum?

A. No sir.

Q. Tell us how you did ascertain that.

A. One well in particular I know right beside of ours, we closed the gate; in other words, we went to take the pressure of it, and there was not any pressure. We closed the gate so the well would build up.

Q. Was that the Carneigie well you were testing?

A. Yes sir.

Q. Is that frequently done among operators, to test each other's wells?

A. Yes sir.

Q. Now, what would be the effect, if, as Mr. Corrin stated, all of the companies would have to come to the use of suction or vacuum, on wells in the near future, what will be the effect on your wells in your neighborhood?

A. We won't be able to get any of the gas unless we get on suction.

Q. In other words you will have to go to the expense of pump stations, yourself, or be without gas?

A. Yes, in a short time.

2874 Q. And how long do you suppose you will be able to supply your consumers if that contingency occurs?

A. I think a year or so.

Q. In the meantime would your wells have sufficient pressure, to market, any appreciable amount, enough to take care of your consumers?

A. No sir.

Q. Have you ever figured on putting in pump station?

A. Yes sir.

Q. Why didn't you put one in?

A. Well, money matters is one reason; we are not able to put in one, unless we get help.

Q. Well, taking into consideration the holdings of the Lumberport Gas Company, is a pump station justified?

A. No sir.

Q. It was said on direct examination, I think, of the plaintiffs' testimony, by some one, that local companies not operating in West Virginia had always or constantly made money in large amounts. What has been your experience, the experience of the companies you are interested in?

A. Well, nearly all the money that we have ever received from gas has gone back into the plant and extending the lines.

2875 Q. Have you ever gotten your money out of it?

A. No sir.

Q. You referred to all of your companies?

A. Yes sir.

Q. Let me ask you if the Fairmont & Grafton Gas Company, now the Pittsburgh & West Virginia Gas Company, was ever in Lumberport, Shinnston and in that section?

A. Yes sir.

Q. When?

A. The old Fairmont & Grafton Gas Company was in there about 1900, when they came in, and later became the Philadelphia and later the Pittsburgh & West Virginia Gas Company, I think.

Q. Did it hold a franchise from the Town of Lumberport?

A. Yes sir.

Q. What is the size of the town?

A. Not very big, about nine hundred, that is inside of the corporation.

Q. Is the Pittsburgh & West Virginia Gas Company now there?

A. No sir.

Q. How long since?

2876 A. About two years I think, maybe three years, is the last consumers they supplied.

Q. You mean about how long?

A. Two or three years ago.

2877 Q. How long has gas been used in Lumberport and in the vicinities you have testified about, for domestic purposes and industrial purposes?

A. I think about 1900 was the first.

Q. To what extent has gas been used; has there been any other fuel used in that section?

A. Not until the last year or more.

Q. I believe you have stated the inadequate supply has developed within the last two or three years?

A. Yes.

Q. Prior to the development of these shortages were all of the industries served, and all the domestic heat and light supplied by natural gas, or was any other fuel used in that community?

A. Not in our community.

Q. What would be your estimate, from observation and experience, as to whether or not any more gas would be needed to supply that community now as compared with the period before the shortages occurred; would it take any more gas now than it did, say in the year 1916?

A. I don't really know. Well, the price has gone up and people have been more saving of it and so forth since there has been more consumers.

Q. There has been an increase in the domestic population?

A. Yes sir. Has not been in the industrial, for we never

2878 had but the one.

Q. You had that same industry in 1916 and theretofore?
A. Yes sir.
Q. And I understand that it would take such amount as necessary to cover the increased population, is that your idea?
A. Yes, what new families have been added on. I suppose that is what you mean by population.
Q. That, as a matter of fact, is a pretty hard thing to estimate, isn't it?
A. It takes somebody smarter than me to estimate it.

Cross-examination.

By Mr. Weil:

Q. How many consumers have you at Lumberport?
A. Seven hundred and twenty-eight. That is, you mean, Lumberport proper, or the whole system.
Q. No, Lumberport proper, how many consumers, not the people, but how many active consumers?
A. The Lumberport has 728 domestic and one industrial.
Q. And how much has the Lumberport line?
A. I don't know.
Q. And what is the average run from meter per month?
A. Well I don't know that.
2879 Q. Or per hour?
A. I think we sold twenty-three million feet of gas last month. I don't know what it would be per meter.
Q. And what price do you get now?
A. Thirty-five cents net.
Q. To the domestic consumer?
A. Yes sir.
Q. And how much did you get when you started in 1907?
A. I think all you could burn for a dollar in a cook stove, and I think the same for the other fires.
Q. That is you charged them a flat rate of one dollar per cook stove, and one dollar for any other?
A. I think the rate was ten cents per meter, but we did not use many meters.
Q. And the rate was ten cents per thousand for meters, if they used meters, but they did not use them, is that it?
A. Yes.
Q. The Lumberport Company owns all of the capital stock, doesn't it, of the Eagle District Gas Company?
A. No sir.
Q. Does it own any of the capital stock of the Eagle District Gas Company?
A. No sir.
Q. Who owns that, independent parties, or the same stockholders as are interested in the Lumberport Company?
2880 A. Well I own half of the stock of the Eagle District Gas Company, and J. H. Hornor owns the other half. The Lum-

berport Gas Company owns half of any profits of the Eagle District Gas Company.

Q. What is your interest in the Lumberport Company?

A. I don't believe I know the exact number of shares, something like one-third of it.

Q. And Mr. Hornor's interest?

A. He has seventy-five shares.

Q. And what is the capital?

A. I was figuring on the basis of two hundred and fifty shares, twenty-five thousand dollars capital, but the capital is one hundred thousand dollars, the new capital stock of it.

Q. Well, he would have the same proportionate increase, I suppose, in the new capital?

A. Yes sir.

Q. Was the new capital issued as stock dividend, or sold for cash?

A. Well I think a stock dividend partly.

Q. It was substantially a stock dividend; the increase from twenty-five thousand to one hundred thousand?

A. The capital stock was increased to one hundred thousand, but the stock never at any time sold for over six dollars a share, ten dollar shares.

2881 Q. I say the increase in the capital stock from twenty-five thousand dollars to one hundred thousand dollars was as a stock dividend?

A. I think so, I don't remember.

Q. Now you are interested, are you, in the Hornor Gas Supply Company?

A. Yes sir.

Q. And you have also stated you are interested with Schaffner Brothers?

A. Yes sir.

Q. And also interested with Schaffner and Hornor, are you?

A. Yes sir.

Q. And you have already explained your interest in the Eagle District Gas Company?

A. Yes sir.

Q. And also your interest in the Lumberport Company?

A. Yes sir.

Q. So that these companies are all more or less tied up by the same parties, having substantially the same control in those respective companies?

A. You can figure it that way if you want to, but we do not figure it that way. There is people in different companies. Take Coletrane, he hasn't any stock, and Schaffner is a very small stockholder in the Lumberport Gas Company.

2882 Q. But the people who do have the controlling interest in all of these companies also have the controlling interest in the Lumberport Company, as I understood your testimony, that is correct, isn't it?

A. Well, if I answered it that way I did not mean of course they manage and look after these companies.

Q. What price does the Lumberport Company pay to the Eagle District Company for the gas which it obtains from the Eagle District Company?

A. The same price that the Hope Gas Company pays the Eagle District Company.

Q. And what is that?

A. Eleven cents.

Q. And before they sold to the Hope Company, what price did the Lumberport Company pay the Eagle District Company?

A. They have always paid the same price, and that is four and one-half cents, I believe.

Q. That was at one time it was four and one-half cents, and it went up from that gradually until now they pay eleven cents, is that it?

A. Yes sir.

Q. Now you say the Eagle District Company, the Lumberport Company has one-half of all the profits made by the Eagle District Company, if I understood you right?

2883 A. Yes sir.

Q. That is by contract between these two companies?

A. Yes sir.

Q. And how did the Lumberport Company get its interest in the Eagle District Company, by purchase or by advances?

A. The Lumberport Gas Company—in the first place the Lumberport Gas Company had a contract to drill thirteen wells, and they could not drill them, and they turned it over to the Eagle District Gas Company and they agreed to drill them, and the Lumberport Company got half of the profits.

Q. That was, then, for turning over the leases, was it?

A. Yes sir.

Q. And the Eagle District Company got the leases and agreed to drill the wells and were to pay the Lumberport Company one-half of the profit it made out of those leases for the turning over to them of those leases, and the Eagle District Company was to drill the wells in place of the Lumberport Company?

A. Yes sir.

Q. And who furnished the money then to drill these wells?

A. Each well that made one million feet, the Hope Gas Company put up twenty-five hundred dollars, I think, and they was to take it out in gas.

2884 Q. And then you borrowed the money from the Hope Company to drill the territory of the Eagle District Gas Company, and if a well produced a million feet of gas they were to pay twenty-five hundred dollars and take it out in gas; that was the arrangement, was it?

A. That was the arrangement, yes sir.

Q. Then you turned over to the Lumberport Company the gas from nine of the leases and you sold the gas from the other three to the Hope Company, as I understood your testimony?

A. Yes sir.

Q. What price does the Lumberport Company pay to the Hornor Gas Supply Company for the gas it obtains from it?

A. Last year they paid eleven cents, the same as they pay the Hope.

Q. And prior to that time what did they pay?

A. Been based on what we paid the Hope, or what the Hope pays.

Q. In other words it was four and a half cents up, just as in the case of the Eagle District Company?

A. We are paying Coletrane twenty cents a thousand, and Hornor and Schaffner fifteen cents, and Horner Gas Company fifteen cents.

Q. You testified that during a part of this time you were engaged in business personally as a lease scalper in this district
2885 about which you have been testifying, that is correct is it?

Mr. Steptoe: He did not say he was engaged in the business, but he did do it.

A. I handled leases, yes sir.

Q. And during that period didn't you sell or offer to sell quite a large number of leases to the larger companies?

A. Yes sir.

Q. Leases which you took up during that period, that is correct is it?

A. Yes sir.

Q. And when did you begin to take up those leases?

A. I think in 1910 probably.

Q. And during what years did you continue that?

A. Well I have taken a lease whenever I could get one.

Q. Up to the present time?

A. Yes sir.

Q. And did you actually dispose of a number of those leases to the Hope and Pittsburgh & West Virginia and Carnegie Companies?

A. I don't know as I ever sold the Hope direct any. I sold to the Manufacturers Light & Heat Company, and the Hope afterwards got the lease.

Q. And to whom else?

A. Well I believe that is the full amount.

2886 Q. And do you recall how many of those leases there were, and what acreage they represented altogether?

A. Well I think there was seven hundred and fifty acres of scattered leases in one block, and the E. F. Rodgers, I don't know how much, four or five hundred acres, and maybe more than that.

Q. Were there any more that you can recollect?

A. No more that I sold. I had quite a bunch of leases and took them to the Hope and also took them to the Traction Company and could not sell them.

Q. Where were they located?

A. On Bingamon Creek.

Q. How far was that from Lumberport?

A. Well I would say anywhere from eight to ten and twelve miles.

Q. And you say you could not sell them?

A. Could not sell them. They had been leased, but had been let go by different companies as no good.

Q. They did not regard the leases as of any prospective value for oil or gas to speak of?

A. After I took the leases, one of the companies, the Traction Company, had their men go around and take new leases.

Q. After you had surrendered them?

A. After my time had run out.

Q. They changed their minds then evidently as to the value of those leases, did they? Isn't it a fact that one of the objec-
2887 tions made to one of these leases that you held was that the terms of the lease you had taken were too short?

A. I don't think they was short term leases. I think the rental was a little high, was the main thing.

Q. You say a large amount of this land was under lease for oil and gas purposes from 1900 and longer. Who was it first took up the block of leases in that section. What interest was it?

A. Well my father took up a good man- leases, and then Harne & Company took up a number of leases; T. M. Jackson and Company took up a number.

Q. And who else?

A. The Hope Company took leases.

Q. That was afterwards, wasn't it?

A. After which?

Q. After 1900 that the Hope came in?

A. I don't know the exact date the Hope came in.

Q. These other parties were the pioneers in that field who took up the first block?

A. They took up the first leases and sold to the larger companies.

Q. Do you know whether or not Barnesdale & Company came into that section about that time, or 1904?

A. I could not say. I heard that he did.

2888 Q. And do you recollect any other operators that came in to that section prior to that time? Or at about that time, 1900?

A. No.

Q. Well, you have been, of late years, particularly engaged in operating some of these wells or leases, have you not?

A. Yes sir.

Q. And are a practical operator, are you not?

A. Well, I don't know so much about whether I am a practical operator or not. I have been operating and we have had good success.

Q. You think you are a practical operator anyway, don't you? Now isn't it a fact that a number of these wells that you have described, such as the Eagle District and others, owned by some of these other companies, the production could be very considerably increased by drilling deeper or cleaning out?

A. Well, we have been cleaning out since October first. We have been cleaning out one and just got it through.

Q. That is of this year?

A. Yes sir.
Q. Well did that increase it any?
A. Yes sir, it made seventy thousand feet, and it did not
2889 make anything before.
Q. That was seventy thousand per cent increase, wasn't it?
A. But it has never paid for itself.
Q. Don't you think you could increase your supply by drilling deeper, or by cleaning out some of these wells?
A. The Eagle District wells, they are all in good shape. We have cleaned out a couple, and the others are in fairly good shape, and we have drilled down one and got very little gas.
Q. How far is Erie and Hepzibah from Lumberport?
A. Well between four and five miles.
Q. And what size lines, by what size lines are they connected?
A. I think four inch, most of the way. Maybe a little bit of three inch; I don't know exactly.
Q. And are those the lines through which the gas is being supplied?
A. Yes sir.
Q. It comes from Lumberport?
A. Yes sir, we have one well over close to Erie.
Q. And those are in different directions, Erie and Hepzibah, are they not? They are not on the same line?
A. Yes sir they are on the same line.
Q. Both on the same line, how close are they to one another?
A. Well, at Erie, that is not much of a place. The fact of
2890 the matter Erie and Hepzibah both would not make much of a place.
Q. How much of a place?
A. Three or four hundred people probably.
Q. And that line would be what you call a dead end, isn't it? It ends there?
A. It ends over there, yes sir.
Q. You know, from your own personal experience, don't you, that you always have trouble in supplying a district where the line into that district is comparatively small and ends there, or becomes a dead end line?
A. We have an old compressor plant when we get there, and we don't aim to have any dead ends on it.
Q. There is a dead end at that point on your transportation line, isn't there?
A. Yes.
Q. And you know you always have trouble where you have such a dead end on a small line, in supplying gas to that community, don't you? That is the experience of every gas company, isn't it?
A. We have not had much trouble furnishing Erie until the pressure got so we could not get it — run.
Q. You never would have any trouble if you had big enough pressure. A dead end only operates when the pressure gets
2891 low, doesn't it?
A. I don't know.

Q. What would it cost you to erect a small compressor station sufficient to supply that community which you say was a tributary to your line?

A. They way our wells are scattered and all, and to lay lines and so forth to them, I would say it would cost thirty or forty thousand dollars, not counting the building and so forth to put it in.

Q. With such a compressor station it would prolong the life of your supply very much, wouldn't it?

A. I would think it would, yes sir.

Q. What is the total gross receipts from this whole system, per annum?

A. From what I have mentioned here, the different companies?

Q. Yes?

A. Something like one hundred thousand dollars.

Q. Per annum?

A. Yes sir. That is the last year.

Q. I am speaking of the present time. About one hundred thousand dollars?

A. Yes sir.

—. ——.

A. You mean all these companies I have spoken of?

Q. Yes sir? What is the gross receipts of the Lumberport
2892 company the last year say?

A. I think it was thirty-eight thousand dollars.

Q. How much was originally invested in cash by the organizers of the Lumberport Company in that enterprise? I am talking now about their cash investment?

A. I think about seventeen thousand five hundred dollars was the cash investment.

Q. And all of the balance has been raised by the profits that went back into the business, or income that went back into the business?

A. I don't know whether there is any balance or not. We put the income back in it. I don't know today whether it is worth any more than seventeen thousand dollars or not.

Q. The whole system then represented seventeen thousand investment, and what has been put back into it?

A. Yes sir.

Q. And the amount of capital issued at the present time is one hundred thousand dollars?

A. Yes sir.

Q. The capital stock?

A. Yes sir.

Q. How much dividend have you ever paid?

A. We have paid this year ten per cent on the one hundred thousand dollars.

Q. That would be ten thousand dollars?

A. Yes sir.

2893 Q. What did you pay prior to that?

A. We have been paying about five per cent in the last few years. And there was a few years that we did not pay any.

Q. When did you increase the capital to one hundred thousand?

A. Well it has been six or seven years ago, I think, or along there.

Q. Then you paid the five per cent for five or six years on the one hundred thousand dollars and then last year you paid ten per cent on the one hundred thousand dollars, is that correct?

A. Yes sir. Well, we paid ten per cent last year, but I don't know whether it extended back five or six years or not.

Q. You said you had paid it for six or seven years, as I understood you, and so I deducted the one year?

A. I meant six or seven years all told. There was several years we did not pay any dividends at all.

Q. Then the dividend was paid, was it, on the one hundred thousand dollars, at five per cent?

A. Yes sir.

Q. And how much dividend, if any, did you pay when the capital was twenty-five thousand dollars?

A. I don't remember whether we paid any or not.

2894 Q. Then, according to that estimate that you have given us, you have taken out in dividends something over thirty-five thousand dollars, counting the ten thousand last year, and say five per cent for five years, would be twenty-five thousand, would be about thirty-five thousand dollars. Would that be about approximately correct?

A. I never kept any particular account, but I don't think it would amount to that much. I don't know.

Q. How many wells have you altogether in this list of companies which you gave us, including the Lumberport Company and Hornor Gas Company, and Gas Supply Company and Schaffner Brothers and Eagle District Gas Company and Schaffner & Hornor?

A. Something like thirty-five or forty wells.

Q. And the whole number of consumers on your whole district I think you said was seven hundred and how many?

A. Seven hundred and twenty-eight, on Lumberport, and about sixty on Shinnston.

Q. And that would be seven hundred and eighty-eight, is that correct?

A. Yes, and two industrial consumers.

Q. How much do you get from your industrial consumers, what price?

A. We get thirty cents a thousand.

Q. At the present time?

2895 A. Yes sir.

Q. What did you get formerly?

A. We got twenty cents. It is on a sliding scale. We started out in 1916 at four and a half, and it has been raised a time or two.

Q. Until it is now twenty?

A. Thirty.

Redirect examination.

By Mr. Steptoe:

Q. Mr. Hornor, with reference to these leases that you took up and had disposed of, or tried to dispose of, were they located

within such distance of Shinnston as to make them available to the Lumberport Gas Company?

A. Too far away to be of any benefit, except that Rodgers lease that I spoke of.

Mr. Weil: What was that?

Mr. Steptoe: That seven hundred acre lease.

Q. And to have used those would have required a pump station I presume?

A. Well it probably would not at the time I had the leases, but it would at the present time.

2896 Q. Did I understand you to say that seventeen thousand five hundred dollars was about the cash amount put into the Lumberport Gas Company?

A. I think that was the amount.

Q. You did not state the amounts put into the other companies, did you?

A. No sir.

Q. For example, you bought the Shinnston Gas Company. What did that cost you?

A. Seventy-nine hundred dollars, the first cost.

Q. And that was at public sale?

A. Yes sir.

Q. And none of the seventeen thousand five hundred dollars related to the investment of Schaffner and Hornor and Eagle District Gas Company?

A. No sir.

Q. You confined your answer on that to the Lumberport Gas Company?

A. Yes sir.

An adjournment was here taken until Thursday, February 10th, 1921, at ten o'clock a. m.

2897 Supreme Court of the United States, October Term, 1919.

THE COMMONWEALTH OF PENNSYLVANIA, Complainant,

vs.

THE STATE OF WEST VIRGINIA.

THE STATE OF OHIO, Complainant,

vs.

THE STATE OF WEST VIRGINIA.

Before Lævi Cooke, Esq., Commissioner.

Morning Session, Thursday, February 10, 1921.

Defendant's Testimony.

2898 Thursday Morning, February Tenth, 1921.

And now, the hour of ten o'clock, a. m., having arrived, hearing resumed, pursuant to adjournment.

B. F. ROBINSON, recalled, testifies as follows:

Redirect examination.

By Mr. Steptoe:

Q. Mr. Robinson, I had you recalled in order to call your attention to a question and your answer to it given on re-cross examination. I hand you now the typewritten manuscript, and call your attention to page four hundred and forty-four, where you were asked this question: "Isn't it the custom among the gas producers, if they obtain gas some distance from their line, that it can be turned into the line of other gas companies adjacent to the production; that they swap or exchange gas with each company and thereby obtain the immediate use of the right quantity of gas into their lines from that company having lines in proximity to your lines?" To which you answered as follows: "That is frequently the custom, or we can sell the production to that company, which we would doubtless do. We have exchanged territory once in a while, if we can make any exchange that would prove a value to us". I want to ask you now, if, in your answer to that question, you in-
2899 tended to say that there was a custom of exchanging gas between the gas companies, and especially as between the larger pipe line companies and the local utilities?

A. In answering this question the way I did I had in mind the situation which could arise, and has arisen with our company, in drilling in some productions where we had no line. When that has been done, on one or two occasions, we have temporarily sold our

gas and turned it into the lines nearest us until we could extend the line to that production. The arrangement, however, was only of a temporory nature.

Q. Well, was the gas you turned in to that gas line, or to the company's lines, transported for you to your system or exchanged? Just what was the result?

A. Whether or not it could be considered that it was transported to our system or not I do not pretend to analyze it. We simply sold the gas to them. We were purchasing gas from other points continuously and we received pay for it at the place where we sold it to the line, and in turn was paying them for such gas as we bought at other points.

Q. I understand you mean now to refer to the personal experience of your company?

A. I do.

Q. Did you mean to be understood as saying that there was a general custom of exchange whereby any local utili-es pro-
2900 ducing in the field and delivered to the pipe line companies, and it was exchanged?

A. I was only making answer to your question by our own action under those conditions.

Q. But as to the experience of other local companies along that line have you any knowledge?

A. What arrangements have been made by other companies with the Hope I do not know.

Q. Or any other company?

A. No, or any other company.

Q. And what I particularly desired to straighten out on the record was whether or not you desired to be understood as saying that there was a custom of transporting gas of one company for another and exchanging for the benefit of local utilities?

A. No, I have no desire to undertake to answer as to that case.

Q. Do you know of such by any other companies?

A. No, I do not, at this moment.

PARKE BOWSER, called as a witness, having been first duly sworn, testifies as follows:

Commissioner: I will ask the reporter to have this subpœna and return spread upon the record.

2901 "UNITED STATES OF AMERICA, *ss:*

[Seal of the Supreme Court of the United States.]

The President of the United States of America to the Marshal of the United States for the Northern District of West Virginia, Greeting:

We command you to summon B. F. Robinson and Park Bowser, if they be found in your Bailiwick, to be and appear before Levi Cooke, Esquire, Commissioner appointed by the Supreme Court of

the United States, at Clarksburg, West Virginia, on the 8th day of February, 1921, to give evidence on behalf of the defendant in certain causes now pending in said Supreme Court of the United States, wherein The State of Ohio and The Commonwealth of Pennsylvania are complainants, and The State of West Virginia is defendant.

Hereof fail not, and of this writ make legal service and due return.

Witness the Honorable Edward D. White, Chief Justice of the United States, this 22nd day of January A. D. 1921, and in the One Hundred and forty-fifth year of the Independence of the United States of America.

JAMES D. MAHER,
Clerk of the Supreme Court of the United States.

2902 (*Endorsement of Return.*)

UNITED STATES OF AMERICA,
Northern District of West Virginia, ss:

Received this writ at Fairmont, West Virginia, on February 5th, 1921, and I hereby certify and return that I executed the same upon the within named on February 5th, 1921, by delivering to him in person at Clarksburg within said Northern District of West Virginia, a duly certified copy thereof. Not executed as to the within named Park Bowser by direction of Philip P. Steptoe, attorney.

C. E. SMITH,
U. S. Marshal for the Northern District of West Virginia,
By HOWARD ADAMS,
Deputy."

Direct examination.

By Mr. Steptoe:

Q. Mr. Bowser, give us your age and place of residence?

A. I am forty-three years of age, and my residence is Parkersburg, West Virginia.

Q. Is that in Wood County?

A. It is.

Q. What is your occupation?

A. Oil and gas business generally.

2903 Q. How long have you been in the oil and gas business?

A. I have been in the oil and gas fields practically all of my life. I began work when I was about fourteen years of age handling wells. But the business part, perhaps about fifteen or sixteen years, as owner.

Q. You started in at fourteen years of age in what capacity?

A. I was pumping and roust a-boutting, roust a-bout work.

Q. Now, in your own way, just tell us generally how you developed along up to the producing stage on your own responsibility?

A. I lived in Pennsylvania and Western New York, in Olean, and Bradford, Pennsylvania, and Hancock County, West Virginia, and Wood County, Ohio, at Bowling Green. And I was in California

and worked in the oil fields there in about Los Angeles and Bakersfield, and then in West Virginia for about twenty years.

Q. Well, now what were you doing all that time? In what kind of work were you from time to time engaged in that business?

A. Pumping and roust a-bout work and general lease work for different companies; and some office work and foreman work and superintendent, and as owner.

2904 Q. For what companies did you work?

A. Why I first worked for John Coast of Olean New York.

Q. In what business was he?

A. In the oil business.

Q. And that was as roust about?

A. Pumper first.

Q. And next what did you do, and for whom?

A. That was in West Virginia; but later in Ohio I was with Coast and Finigan in Wood County Ohio, and next employed in the oil fields in California for the San Joaquin Oil Company.

Q. In what capacity did you work there?

A. In drilling wells. Tool dresser and driller.

Q. And next for whom did you work, and in what capacity?

A. For The South Penn Oil Company I expect.

Q. Where was that?

A. In Lewis County.

Q. West Virginia?

A. West Virginia.

Q. What was the character of your work with that company?

A. I did some lease work and office work and foreman work.

Q. And what year was that, or what years?

A. In 1901 and 1902 and 1903.

Q. And from that what business did you go in?

2905 A. I made some investments in oil royalty, and I was with the Guarantee Oil Company in Calhoun County in this state.

Q. In what capacity?

A. As foreman.

Q. And following that?

A. I had interests of my own and took those up, and been managing those, in oil and gas.

Q. That is after about 1902 or about 1903 to the present time?

A. 1904.

Q. To the present time?

A. Yes sir.

Q. Now in what sections of West Virginia have you worked, either for others, or operating on your own behalf?

A. Well, in Lewis County, Calhoun, Ritchie County, and Gilmer County, and some in Wood County.

Q. At the present time where are you- operations located? And give us an idea of the extent of them.

A. In Calhoun, Ritchie and Gilmer County.

Q. And what are your holdings?

A. I have about seventy oil and gas wells.

Q. You say you, do you mean you individually or are you associated with some others?

A. Some others are interested with me, but I have the control of the property.

2906 Q. How man- of your wells are gas wells, and how many are oil, approximately?

A. All produce some gas, but there is those that produce gas alone, probably about fifteen.

Q. To whom is your gas marketed, or if more than one, name all of them.

A. It is all now being marketed that I am marketing to Godfrey L. Cabot of Boston, Massachusetts.

Q. And in what business is Mr. Cabot, and what does he do with the gas?

A. He did use it for carbon black or lamp black, but it is now being delivered to the Hope Gas Company.

Q. By Mr. Cabot?

A. By Mr. Cabot.

Q. And where is that carbon plant located?

A. About two miles from Grantsville on the Little Kanawha River.

Q. Is that in Calhoun County?

A. Yes sir, Calhoun County.

Q. Is that plant now engaged in the manufacture of carbon, do you know?

A. No sir it is not being used for anything that I know of.

Q. Do you know why?

A. I understood that during the war period the federal department, or those in control of the fuel department did not like

2907 to have the gas used for that purpose. They needed it for manufacturing, and they brought pressure to bear to have it used for other purposes that they considered more necessary and for carbon black.

Q. With the result then, as I understand you, that the carbon black manufacturing has been abandoned, or at least has not been used since?

A. It has not to my knowledge.

Q. Do you know whether the price at which gas can now be sold had any influence on the abandonment of the manufacture of carbons?

A. It may have had, I don't know positively.

Q While we are on the subject of carbon plant-, do you know of any other carbon plants in West Virginia that have abandoned the manufacture?

A. I do not particularly.

Q. You have understood that there was a carbon plant in Doddridge County conducted by the Imperial Oil & Gas Company, Imperial Oil & Gas & Products Company. Do you know anything about the situation of that plant?

A. I do not.

Q. Do you know whether that company has under contemplation the sale of its gas?

A. No I do not.

Q. Do you know whether it is still operating?

A. No sir.

2908 Q. Let me ask you if you have any information as to the Imperial Oil & Gas Products selling its gas or contemplating the sale of it to the company furnishing the consumers of Pennsboro, Ellenboro, and Cairo?

A. I have noticed in the Harrisville Paper that they are contemplating putting a line into Pennsboro. That is the only information I believe that I have on it.

Q. Now in connection with your operation in the several counties you have mentioned, have you become, to some degree, familiar with the oil and gas territory of those counties?

A. Somewhat.

Q. Do you look out for leases and available territory?

A. Yes sir.

Q. And have you been, in the course of your operations from 1904 to date, looking out for territory which might be acquired?

A. Yes sir I have always been interested in it.

Q. With respect to Lewis County, how long since you have been interested in that county?

A. I have not been for a number of years, to know definitely about conditions there.

Q. At the time you were employed in Lewis County what was the situation there with respect to oil and gas territory?

A. Well in the first part I was in the Fink Fields there,

2909 and was there principally all the time in Lewis County.

Q. That is an oil field?

A. It was a very good oil field, and is very good yet; and it is also a very good gas field. There is a good many wells there that were let go into the air for a long time, and there was not much market for the gas until I understood they arranged for a line through to Cleveland. And it was some time until the gas was taken care of or saved. We had wells there that made so much gas, and only a little oil, and the sand coming out would wear the -ells out where it made the turns going into the tanks, and we wasted, of course an awful lot of gas.

Q. How much of that territory was under lease?

A. Well the field was several miles long there and The South Penn had all but two leases that were developed. One of those was the Wagoner, and the other the Alkire Farm, is the one that I remember.

Q. I was referring to what was considered the gas territory. Was that more or less under lease at that time?

A. It was, I think, held pretty solidly by the South Penn Oil Company.

Q. By what companies or interest, chiefly?

A. I understood at the time that the South Penn Oil Company held it, although the Hope or Mountain State had taken over the part that produced gas. Sometimes they would switch a well

2910 back and forth several times before it was allowed to rest under any one department.

Q. The holdings of the South Penn Oil Company or Hope are quite large, speaking in a general way?

A. Yes sir.

Q. And most of the territory was under lease?

A. Yes.

Q. Did that condition ma-ntain up until the time when you were no longer interested in that county?

A. Yes sir.

Q. Now with reference to Doddridge County and Calhoun County and Gilmer. What have you to say as to the territory, oil and gas territory there.

A. I don't know particularly about Doddridge County, only in a general way.

Q. I want to know whether or not it is pretty generally leased up?

A. I think it is generally held under lease. There are no large blocks unleased that I know of.

Q. How long has that situation ma-ntained, how many years?

A. I could not say definitely, but I know it seems to have been quite general for twenty years of so.

Q. Principally by what companies or interest has the property been held?

2911 A. It has always been held, principally, as I have understood, by the different branches of the Standard Oil Company; the different branches.

Q. Name those companies?

A. Carter Oil Company, South Penn Oil Company, Mountain State Gas Company and Hope Gas Company.

Q. Are there any other gas interests in there besides the four you have mentioned?

A. Yes there have been at times, but I don't know generally about them. The Carnegie and Monongahela Valley Traction Company have some leases in that country, under the Philadelphia.

Q. How about the Carnegie Natural Gas Company?

A. I think they have held some leases in that territory.

Q. When you speak of the Philadelphia Company, does it go under that name now, or is it now under the name of Pittsburgh & West Virginia Gas Company?

A. I don't know.

Q. It is currently know- as the Philadelphia Company?

A. It is currently know- as the Philadelphia Company.

Q. Which is the parent company.

A. Yes sir.

Q. Are there many producers of natural gas scattered through these counties who have no pipe line system of their own?

2912 A. I don't know that there are.

Q. You have no pipe line system have you?

A. No.

Q. Are there others like you producing and have no lines?

A. There are some.

Q. Are the holdings of those producers, like you, possessed of any large acreage?

A. Not that I know of.

Q. As a rule, how are they taken up, in scattered leases or in blocks?

A. They necessarily have to be taken in scattered leases, because, as a rule, there is practically no large blocks. I think they get into it by drilling for oil and get gas and then sel- it as they can, and sell it for such loss as they are able to.

Q. Where do they dispose of their gas? what market have they for their gas?

A. In any quantity it would be usually through the Hope Gas Company.

Q. Is that the principal one operating in the territory you refer to?

A. It is the principal one receiving gas now, excepting Godfrey Cabot gets it and transfers it to the Hope.

2913 Q. Is all of your gas production being marketed to Mr. Cabot?

A. All that I am marketing is being marketed to him. I am only marketing part of the gas that I have. I have part of the gas shut in.

Q. How much of the gas have you shut in?

A. About two million feet. I am marketing about two million, and have two million shut in.

Q. Where is that production?

A. Principally in Gilmer County

Q. Have you any market for that?

A. Well, I have had in a way. I had an offer of a market, but I did not like the marketing conditions.

Q. Well, where can you market it, to whom, if you could agree upon conditions?

A. I could market it to the Hope Gas Company, I expect.

Q. Is that the only available market you have?

A. It would be the only available market that I could market to profitably, or with any hopes of profit.

Q. Where else could it be marketed at all?

A. The only other market I would know of would be, within a reasonable distance, is Glenville, which is now supplying the

2914 company is supplying a part of the town. They are short.

Q. That would require how much,—or would it be profitable or justifiable?

A. It would hardly be profitable.

Q. Why?

A. From the cost of the lines and market value, and the divided market.

Q. What is the best price you have been offered for your gas?

A. The best price I have been offered for that gas that is shut in was three and a half cents, and to lay the line. That was some years ago. I would have to lay about two and a half or three miles of six-inch line to the Hope.

Q. And rather than accept that you shut in your well?

A. I have the gas shut in.

Q. Is your territory being affected by being shut in?
A. Not particularly.
Q. It is not being especially drained?
A. I used some of it for development there, and I am selling a little gas there at the present time. I am suplying the South Penn Oil Company with a little gas, and supplying some to the Village of Tanner. The gas I am supplying to the South Penn is
2915 just for a drilling well which happened to be located near one of the gas wells where they could get a supply.
Q. How generally is gas used for the heating of dwellings and domestic purposes, and industrial purposes, in the sections through which you operate?
A. All that can avail themselves of it would like to use it. They have it or would like to have it, as far as I know.
Q. Practically all of the communities are using gas for domestic purposes, are they not?
A. All that are able to get it.
Q. Have they been using it along for many years?
A. Generally for fifteen to twenty years. Some longer and some less.
Q. And I understand you to say now that some cannot get it?
A. Well, there is some places that it is too far removed from the supply to be furnished; and other places the supply is short. I understand at Glenville they are using coal. They do not have enough gas to supply them.
Q. Glenville is being supplied.
A. By a company—I don't know what company, by a company of Buffalo, New York.
2916 Q. That company owns the capital stock?
A. I don't know that it does. I know that Mr. Thomas of the Eastern Oil Company handles the business for them.
Q. Is Glenville the County seat of Gilmer County?
A. Yes sir.
Q. Is there much gas production in that county, in a general way; are there many gas wells?
A. Not as many as there are in some counties, but I think it is pretty fair. It has not been developed as much as some of the counties have. It has not been tested out yet thoroughly.
Q. What companies are in business in that county?
A. The Glenville Natural Gas Company and Hope and Philadelphia and South Penn.
Q. Is the Pittsburgh & West Virginia the holder of any leases or production in that county?
A. I don't know particularly. The Crude Oil Company have some holdings in that county. I think there are several others, but I don't know of them particularly and definitely.
Q. Now with reference to the independent producers of gas, I mean by that, those that have no pipe line systems of their own, what is the extent of their holdings, and nature *nature* of
2917 it, as a general rule, large or small, or scattered?
A. Usually small and scattered.

Q. Where they can obtain territory?

A. I think they often developed their property just by reason of having drilled a test well for oil and probably struck gas, and then tried to obtain market for the gas.

Q. And these people, in the search for oil, strike gas and discover a field, and the pipeline companies come in, is that the usual course?

A. As a rule.

Q. Now the sales by independent producers of their gas to the larger companies, are those sales in any way regulated by law or public service Commission, or are they merely matters of agreement or private contract?

A. They are principally by contract, as far as I know.

Q. Just a contract between the parties?

A. Yes sir.

Q. Are there any regulations in the State of West Virginia with respect to the amount of gas that may be taken from any well, or restriction thrown around the amount of production, and how it shall be taken?

A. I don't know particularly.

Q. You have never known it?

2918 A. I don't know if there are or not, or what they are.

Q. And no regulation or restriction as to the number of wells that may be drilled, or anything of that sort?

A. Not that I know of.

Q. How general are pump stations, or compressor stations, as they are generally called, used now in the gas field, are all of the larger pipelines using pump stations?

A. I expect that all of the larger companies are using them. They are in general use.

Q. Is the use of pump stations necessary now?

A. They are quite necessary in order to transport the gas any great distance.

Q. I believe you said you resided in Parkersburg?

A. Yes sir.

Q. For how long?

A. I have resided there about three years.

Q. What companies are serving gas there to the domestic public and industrial public?

A. Hope Natural Gas Company.

Q. Do you know how long the Hope Company has been furnishing that city?

A. I think about twenty years.

Q. Do you know whether it has always been under the

2919 name of the Hope Company, or whether it was ever supplied by the Mountain State Company?

A. I think it was the Mountain State at first.

Q. And taken over later?

A. Yes sir, and changed to the Hope Gas Company.

Q. Do you know where the Mountain State Gas Company served gas in West Virginia, before it was taken over by the Hope Company?

A. Well, I don't know particularly, but they used to handle field

work in Lewis County, and I understood that they did generally in several counties, and then it was taken over in the name of the Hope Gas Company.

Cross-examination.

By Mr. Weil:

Q. Mr. Bowser, you said this two million feet of gas, about, that you had shut in, that you had a chance to market it sometime ago, but you did not like the conditions?

A. Yes sir.

Q. And to whom did you have a chance to market it at that time?

A. To the Hope Natural Gas Company.

Q. What were the conditions that you did not like?

2920 A. Well, the price. The greatest thing I did not like, and I have been fighting against, was the minimum delivery clause which seemed that it would confiscate a property. I had to contract to that company any leases or wells at a minimum delivery which was so low that it would not pay rentals or royalties, and before I could get released from that contract, if it did go so low that you could not pay any royalties or rentals, outside of the running expenses, I would have to make a contract or deed or transfer to the Hope Natural Gas Company at the second hand value of the material for those wells, and give them the leases before I could be released.

Q. What do you mean by a minimum delivery?

A. It was as low, in some contracts that I saw offered as twenty thousand feet a day.

Q. Twenty thousand feet a day for certain wells, wasn't it?

A. Yes sir, for certain wells.

Q. And how many wells were there?

A. Well, as many as three.

Q. That would have been, then, about a minimum quantity of sixty thousand feet a day for three wells, twenty thousand each, wouldn't it?

2921 A. I am not sure, but I think one contract was twenty thousand for the three wells.

Q. And was that to be all the gas they would take, or simply the minimum quantity?

A. That was the minimum. Any gas wells failing to produce more, if the production got that low, they would still hold the contract, and there was no reason if it kept above that, but if it failed to produce that much, or went below that, then I could have the choice of releasing to them or drill to get the production from the territory for my own use.

Q. They agreed to take all the gas that those wells would produce?

A. Under certain conditions, but did not want it pumped. When it got down and would not produce, they would let it shut down.

Q. I am not speaking about the conditions when it got down, but as I understand the contract, it was that they would take all the gas production, all the natural gas that you had from those wells, and

the difficulty was that when it got down to the production of twenty thousand feet a day, then these conditions attached, is that right?

A. They would take it under conditions, that is, so much
2922 during the winter and so much during the summer months, natural pressure.

Q. I understand that, but they agreed to take all the gas that these wells produced, didn't they?

A. Under those conditions, yes sir.

Q. I understand under those conditions, but did they agree to take all the gas these wells produced? That is a simple question.

A. Yes sir, they did.

Q. And after it got down to twenty thousand feet, then these conditions attached that you have been telling us about?

A. Yes sir.

Q. And prior to that time, of course, those conditions did not affect the delivery?

A. No sir.

Q. And you say you have how many wells shut in?

A. I have, at the present time, four wells shut in.

Q. That would produce this estimated amount?

A. I have five shut in.

Q. That would produce this estimated amount or quantity of two million feet?

A. Yes sir.

2923 Q. And how far is Glenville from your wells?

A. Between eleven and twelve miles.

Q. And how far was the Hope Gas line from the wells?

A. About two miles or two and a half.

Q. And who was to lay the line to the Hope lines?

A. Under the contract that was presented to me I was to place the line and bear the expense of it and put in my own line.

Q. And what size line would it take to run this gas to Glenville, according to your estimate?

A. Some of the wells are as high as six hundred pounds rock pressure, and use a two inch line from the well, that is what is used now in that country.

Q. And how much would it have cost now to lay these lines from your wells to Glenville?

A. Since the gas has been short, and for the chance to market it, it would have taken perhaps twenty-five or thirty thousand dollars.

Q. To lay a line, a two inch line to Glenville?

A. At a place for to transport the gas.

Q. I am not speaking now of transporting the gas, but just to lay the line to Glenville so as to sell it to the company that is
2924 supplying Glenville, if you could?

A. It would have cost me for the pipe alone, for the last year or two, in the neighborhood of a thousand dollars a mile.

Q. And how much to lay it?

A. I expect the delivery and laying of the line would likely run a couple of hundred dollars a mile.

Q. And that would have cost then, for a line to Glenville, in the neighborhood of twelve to fifteen thousand dollars, according to that

estimate, or somewhere between twelve and fifteen thousand dollars, a ten or eleven mile line?

A. In that neighborhood.

Q. And you concluded that that was too large an expense to justify you in laying that line?

A. Yes, and considering conditions there. There is a company already supplying, and they might obtain other supply and be able to supply the place themselves.

Q. Your business, as I understood you to explain, was that of a producer?

A. Yes sir.

Q. And when you take up leases and go out for the purpose of drilling wells, you do it with the principal intention and purpose of getting an oil well?

2925 A. Yes sir.

Q. That is true of a majority of independent producers?

A. Yes, that far from the open market. For they have an open market for the oil and do not have for the gas.

Q. And when they take up a block of leases, as a rule, they take it up with reference to obtaining an oil production and not with the idea of getting a gas production?

A. I would think generally it was, yes.

Q. And when they get gas on their lease, of course, then they try to find a market for that gas and to operate their territory, if it will pay them to drill gas wells?

A. Yes sir.

Q. But the drilling of gas wells and operations by independent producers for the purpose of producing gas, as a rule, is incidental to their main purpose of producing oil, isn't it?

A. It is as a rule, I think.

Q. The independent producer, for example, when he started into a field where there have been oil developments picks up leases, or *trys* to obtain leases for the purpose of drilling wells for the production of oil, that is his main purpose, isn't it?

A. Yes sir.

2926 Q. And when he gets gas, why of course he tries to get as much out of it as he can by disposing of that gas?

A. Yes sir.

Q. Independent producers, as a rule, do not set out deliberately for the purpose of obtaining a block of territory for the production of gas alone?

A. I think not, generally.

Q. Only the companies engaged in the natural gas business, those who are producing, transporting or selling natural gas as their main business, are the ones who try to obtain the territory for the purpose of producing natural gas, is that true?

A. That is true, I think.

Q. And has been for a great many years?

A. Yes sir.

Q. The production of gas by the independent producers in former years, when they obtained a gas well, was regarded the next thing to a dry hole, wasn't it?

A. In some instances it was worse than a dry hole, on account of the trouble of plugging it. I have seen that right along in the gas wells, that they were really worse than a dry hole.

2927 Q. And it was regarded then as a failure when they obtained natural gas instead of oil?

A. Yes sir.

Q. For a great many years, until the last three or four years, let us say, there was more gas production in the West Virginia fields than there was market for the gas, was there not?

A. Well, yes, considering the lines that they had laid at that time. If they had been reaching out to larger cities—I don't know whether they was ever connected with Baltimore or Washington or not.

Q. Not at that time. I am speaking of three or four years ago.

A. Yes sir.

Q. At that time, with the conditions then existing and lines laid and production of natural gas in West Virginia, there was more production than there was market for the gas?

A. Yes, there was at that time.

Q. That, however, has changed during the last three or four years?

A. Yes sir.

2928 Q. And now, as you understand the general situation, there is a market for all the gas that can be obtained and turned into the lines?

A. Yes sir, there seems to be.

Q. That is, in that section.

A. Yes sir.

Q. This gas is being transported by these companies, that is, these companies which have obtained authority in West Virginia, through their lines of transportation, to many points outside of the state, isn't it?

A. Yes sir.

Q. To Pittsburgh, for example, and that section of Pennsylvania now, and to Ohio and to Indiana and Maryland and Kentucky, all of those states?

A. Yes sir, I understand there is a market in all of these states.

Q. Well, also, to New York. What are the sized lines?

A. I don't know definitely, only just in a general way that they are from a few inches up to twenty inches. There are several ten and twelve and sixteen inch lines.

Q. You have seen these lines?

A. Yes sir.

2929 Q. The ten, twelve and sixteen inch lines?

A. Yes sir.

Q. And you have understood there are lines as large as twenty inches?

A. Yes sir.

Q. And do you know how many miles of those lines there are?

A. No, I do not.

Q. And what companies, if you have a recollection of it, own those lines?

A. I don't know particularly.
Q. Well, the Hope is one of them, isn't it?
A. Yes sir.
Q. And what about what you call the Philadelphia Company, or Pittsburgh & West Virginia?
A. Yes sir, the Pittsburgh & West Virginia and Reserve.
Q. The Reserve Gas Company?
A. Yes sir.
Q. Do you know about the Western Maryland?
A. Yes sir. Is that the West Virginia Central Gas Company, or eastern holdings?
Q. Yes.
A. Yes sir.
2930 Q. And Carneigie?
A. Yes sir.
Q. All of them have these large lines?
A. Yes sir.
Q. Transporting gas to these different points, some to one place and some to another, outside of the State?
A. Yes sir, I know in a general way, but not generally as to the mileage or real ownership.
Q. They are just known by that name in the field?
A. Yes sir, I have always been interested in the oil and gas business and know them the general way, but not the definite amount they have or the real ownership.
Q. Has Mr. Godfrey L. Cabot got any pipeline anyplace?
A. He must have somewhere in the neighborhood of one hundred miles of line, that is transporting line, in the section of Calhoun and Wirt and Ritchie, and some in Wood.
Q. And do you know what the size of his lines are, the largest lines?
A. Well no, six and eight inches.
Q. And how long has he been in there, about?
A. Twenty years, I suspect.
Q. As long as that?
A. Somewhere in that neighborhood.
2931 Q. And he put his lines in originally, as I understood you to say, for the purpose of obtaining gas for his carbon black works?
A. Yes sir, I think so; below Grantsville.
Q. And didn't he have more than one works there at near Grantsville?
A. He had one at Creston, and also at Spencer. He has holdings in Roane County also.
Q. I am not speaking of the gas, but the plants for the manufacture of black.
A. Yes sir, he has one there. He purchased one near his original plant at Grantsville from some Pittsburgh parties, Gillespie, I believe.
Q. And he has not only bought gas from others, but he produces gas himself, don't he?

A. Yes sir.

Q. And transported it to these carbon factories?

A. Yes, I understood he used something like ten million feet a day at the plant below Grantsville, for a number of years.

Q. At that one plant?

A. Yes sir, at that one plant.

Q. And within the last few years he abandoned the operation of these plants and is now selling or disposing of the gas, as I understood you?

2932

A. The plants at Grantsville, yes. I think, perhaps, at Creston too. They are not running that one.

Q. Is he operating any of the other plants now?

A. I don't know whether he is or not.

Q. Mr. Cabot put in a compressing station, one or more, on his lines, didn't he?

A. Not that I know of particularly.

Q. Do you know of a compressing station having been built in Grantsville by the Hope Company?

A. Yes sir.

Q. And do you know that they laid twelve or fifteen miles of twelve inch pipe?

A. Yes sir.

Q. So as to connect Cabot's lines with the Hope lines?

A. They laid that line of course, to get that gas out of there, and they have a good sized line. There were lines nearer at that time, but this line was for the special purpose of taking it out.

Q. And they built the compressor station for that purpose?

A. For that particular purpose I think.

Q. And that has been in operation, I suppose, practically ever since?

2933

A. Yes sir.

Q. Been in operation a little over a year?

A. Yes sir.

Q. Do you know how much they pay him for the gas?

A. No, I do not, definitely, only I suppose it is above ten cents a thousand, that or above.

Q. You have some information about that. That is the current rumor.

A. Not so much as the general situation, and knowing something about what gas companies are paying for gas in places.

Q. Do you know about what a compressor station like that would cost?

A. Well, it would run to several hundred thousand I expect.

Q. It would be at least three hundred and fifty thousand dollars, wouldn't it, or about that, according to your best information?

A. I expect it would, putting it up at the time it was.

Q. And the laying of the lines so as to connect up there would cost another between three and four hundred thousand dollars, wouldn't it?

2934

A. It likely would.

Q. And so that the investment there of the Hope Company there

would be in the neighborhood of seven hundred thousand dollars to obtain that gas from Mr. Cabot's lines?

A. Yes sir, I expect that would not be far from it.

Q. I believe you said that when the Hope offered you three and a half cents for that gas it was some years ago?

A. Yes sir, it was some years ago.

Q. Do you remember how many years?

A. I guess as much as four or five years ago.

Q. And they are paying now, and have been for some time, ten cents a thousand, haven't they?

A. I understand.

Q. Have you made any effort to sell this gas that you have shut in to the Hope within the last year or two?

A. I think within the last two years I saw Mr. Corrin and talked the situation over with him in Pittsburgh, and he told me that he thought, according to their contract with Mr. Cabot, that he would not be able to take the gas direct.

Q. They contracted with him not to take the gas from
2935 anybody that he had been buying gas from; and I thought it was rather an injustice to me, and it was placing me rather under Mr. Cabot's ownership, and I did not feel very well over it, and I thought it was wrong.

Q. He said to you that they would not take away the people who had been selling their gas to Mr. Cabot, was that it; that is, that was their arrangement with Mr. Cabot?

A. That seemed to be the understanding.

Q. Did you have a contract with Mr. Cabot at that time for the sale of your gas to him?

A. No contract whatever.

Q. How long had you been selling Mr. Cabot gas at that time?

A. Several years.

Q. And in what quantities?

A. Well, running from a million and two million feet a day. I am selling him about two million feet a day now.

Q. And you had been selling him, you say, in that quantity for several years?

A. Yes sir.

Q. At that time?

A. Yes sir.

2936 Q. When you had this talk with the Hope Company in Pittsburgh?

A. Yes sir.

Redirect examination.

By Mr. Steptoe:

Q. Mr. Bowser, you referred to instances where you knew of the discovery of gas fields there in close proximity to some pipelines which was considered a detriment?

A. The wells were rather a liability, as a dry hole they have no trouble about plugging, and sometimes there is a little trouble where

the gas would break out, and result in damage suits in some places, and the gas companies had too much gas at that time.

Q. And they would not take the gas?

A. They had their own gas, more than they could use, and they would not take the other at the price.

Q. It was a situation such as that that made the discovery of gas a detriment to the independent producer rather than a profit?

A. Yes sir.

Q. About what have been the prices from year to year which you have obtained yourself, and those prevalent on lines of the

2937 producers to the pipeline companies?

A. I sold gas for several years at a cent and a half, and two and a half; and two and a half up until about two years, and then four cents up to the first of November, and I am now getting six cents for what I am selling.

Q. That is, from Cabot?

A. Yes sir.

Q. And Cabot, in turn, sells to the Hope?

A. Yes sir.

A recess was here taken until 1:30 o'clock p. m.

2938 Supreme Court of the United States, October Term, 1919.

THE COMMONWEALTH OF PENNSYLVANIA, Complainant,

vs.

THE STATE OF WEST VIRGINIA.

THE STATE OF OHIO, Complainant,

vs.

THE STATE OF WEST VIRGINIA.

Before Levi Cooke, Esq., Commissioner.

Defendant's Testimony.

Afternoon Session, Thursday, February 10, 1921.

2939 Thursday Afternoon, February 10, 1921.

And now, the hour of 1.30 o'clock p. m. having arrived, hearing resumed, pursuant to adjournment.

F. C. DEVERICKS, called as a witness, having been first duly sworn, testified as follows:

Direct examination.

By Mr. Steptoe:

Q. Mr. Devericks, please state your age and place of residence.
A. I am forty-four years old, reside at Clarksburg, Harrison County, West Virginia.
Q. Are you a native of West Virginia?
A. Yes sir.
Q. How long have you lived in this State?
A. With the exception of just a few months at a time, all my life I have had my residence in West Virginia.
Q. In this section?
A. Yes, practically in this section; not right in Clarksburg, but close to Clarksburg in Doddridge and Harrison Counties.
Q. What is your present occupation, Mr. Devericks?
2940 A. I am engaged in producing gas.
Q. How far back does your experience in the oil and gas business date? And how did you start?
A. Well, my experience in the oil and gas industry, I suppose we would term it the making of roads and the digging of tank grades, the beginning of it, dates back to 1897.
Q. At that time, where were you and what were you doing?
A. I was in Doddridge County in McElroy District, back of West Union.
Q. By whom were you employed and in what capacity?
A. I was employed as a grader on the roads. I think possibly, it was the South Penn Oil Company, or some of those companies, I don't recall now just who it was.
Q. What was your next business along that line?
A. The next business along that line was pumping; that I commenced in the year of 1899, I think.
Q. For the South Penn Oil Company?
A. No, for the Carter Oil Company.
Q. In Doddridge County?
A. No—yes, in Doddridge County, in what is known as the Porto Rico field.
2941 Q. Well, in your own way, tell us, successively, your employment, for whom and the character of them.
A. I worked for the Carter Oil Company for a short period and then went to dressing tools, and I followed that a little while and a friend of mine had need for a man on a lease, Mr. Bishop, who was then with the Eastern Oil Company, had a place for a man on a lease, and I helped him out for a few months—I don't recall just how long—and then I returned again to dressing tools; and I dressed tools for some two or three years; something like that; two years I would say, dressed tools and drilled together, say about two and a half years; and then I came to Clarksburg and commenced taking leases; the first lease, I believe, that I took, was in Wetzel County. Judge Morris, then a young attorney, and I, took up some leases out in the Fishing Creek District, which we held for a while, and Judge

Morris disposed of them later. Then I went back to Salem, and was located in Salem for a few months, and I took up some leases at that time for Mr. T. N. Barnsdale, in Doddridge County; the leases I took up were in Doddridge County, and from there I came to Clarksburg, January, 1904, I think it was, and I again took up some leases and organized a company for the operation of those leases, and
2942 being unsuccessful in finding any market for the gas—and it looked like gas territory—I was obliged to abandon the idea, and the company's charter was surrendered. Then I engaged in the real estate business here and in leasing, occasionally. I have been engaged in real estate and the taking of leases in connection with parties in Clarksburg for, I believe, it will be sixteen years in July since I have had this connection. That brings me up, I think, to the present time.

Q. You referred to some territory you started out to develope. Where was that territory located?

A. That was in Doddridge County, in Southwest District.

Q. Have you since been engaged in or interested in any production, and if so, where?

A. Yes, I am interested in some productions in Harrison County and a little in Ritchie County, and some royalties in Doddridge County.

Q. Are your Ritchie County and Doddridge County properties gas properties?

A. Doddridge County is simply royalty; a gas territory.

Q. Where is that gas marketed?

A. The Hope Gas Company drilled this well. We had the
2943 lease and drilled a well on the property which I owned a part of the royalty?

Q. You simply owned a royalty?

A. Yes.

Q. What about your Ritchie County property?

A. The Ritchie County property is oil property.

Q. What about your Harrison County property?

A. The Harrison County property consists of gas wells, exclusively.

Q. Where are those gas wells located?

A. In Coal District and in Grant District, Harrison County.

Q. Where do you market the gas from those wells?

A. We market the gas from the wells in Coal District, to the Hazel-Atlas Glass Company, and have been marketing to the Rolland Glass Company until the Rolland Glass Company was closed down recently; and then we supplied the gas to Liberty Glass Factory, and to the Clarksburg Glass Factory, and at the present time it is being used or marketed to the Clarksburg Light & Heat Company through the Rolland Glass Company, who has our gas under contract.

Q. Those Coal District wells, as a matter of fact, are in close proximity to the corporate limits of the City of Clarksburg,
2944 are they not, and some of them within the corporate limits?

A. Some of them within the corporate limits of Clarksburg, and the farthest of them, a direct line about a mile and a half.

Q. Now, what about your Grant District gas?

A. That is in the neighborhood of Lost Creek, the Town of Lost Creek.

Q. What do you do with that production?

A. Sell that to the West Virginia Central Gas Company. We formerly sold that gas to domestic consumers in Lost Creek, but we were unsuccessful in getting a rate that we thought would justify us in handling domestic consumption; we got rid of our domestic gas, or domestic consumers, rather; and are marketing to the West Virginia Central.

Q. In the course of your operations and the taking up of leases, and general interest in the oil and gas business through this section, have you acquired some knowledge of the gas territory and acreages available for leasing in the counties you have mentioned?

A. Yes sir, I have some knowledge of it.

Q. And I presume you have more or less familiarity with the properties for which natural gas has been and is used throughout those sections.

2945

—. —.

Q. How long has natural gas been used in Doddridge, Harrison, Lewis, Wetzel and other counties in the north central of West Virginia?

A. The first that I know of gas being used for heating and lighting, in a domestic way, was along about 1892 or '93, and the Big Isaac gas well, discovered in Doddridge County, and the gas was piped from there to Clarksburg and Weston, as I remember it.

Q By what company?

A. I think at that time it was the South Penn Oil Company that discovered this well, but the Mountain State Gas Company operated it later.

Q. Now, following that, the use of gas spread, I presume?

A. Oh yes.

Q. To what extent did it become used?

A. It became generally used for heating and lighting and for manufacturing purposes, and of course, gas had been used prior to that for drilling purposes, but that is my first knowledge of domestic use of gas.

Q. About what year did that continue in general use for domestic and industrial purposes?

2946

Mr. Weil: You mean in this section?

Mr. Steptoe: Yes sir.

A. I would not be able to give the exact date, but the La Fayette Glass Factory I think was located here in the late '90s, or possibly 1898 or 1899, maybe not until 1900 or about that date. The La Fayette Glass Factory was, I believe the pioneer industry using natural gas in this section, as I remember it.

Q. Had Clarksburg been using gas for domestic purposes?

A. Oh yes, she had been using it for domestic purposes I think from along possibly 1893 or '04; something like that.

Q. Now what extent was it used by way of comparison with other fuels?

A. It became the exclusive fuel. When I say exclusive, I presume there was some people who at first had been a little bit afraid of gas on account of its explosibility, and some few continued to still use a little coal, but I think possibly by 1905 it had become the exclusive fuel for domestic purposes in Clarksburg and different places in West Virginia where it could be had.

Q. And has that use continued to the present time?

2947 A. That use has continued up until within the last few years; gas has been exclusively used for the manufacturing and domestic purposes until about the winter of 1915 and 1916, I think; and that winter we had a shortage of gas, a great many of our industries then were closed down and things were very panicky, especially among the men who had been working in the factories.

Q. To what extent were the industries closed down?

A. For a number of weeks, they were on what they termed dead fire, that is, just a sufficient amount of gas being used to keep their batch, as it is usually termed, hot enough so it would not become chilled; and it was generally estimated among the business men at that time, that it meant a loss of a million or possibly in excess of a million dollars a week to the community.

Q. By reason——

A. By reason of the shortage of gas.

Q. What community do you refer to?

A. I mean of the Clarksburg industrial district.

Q. Do you mean to confine your observations to the Clarksburg district, or was that shortage of gas any greater in extent?

2948 A. No, it was rather general throughout the State; the shortage of gas was.

Q. You are more familiar with the Monongahela Valley Section?

A. Yes sir.

Q. What effect was there on other places where gas was used?

A. The same conditions prevailed throughout the Monongahela Valley in a general way. I don't know of any town of any magnitude, or City, in the Monongahela Valley, that was not severely affected.

Q. That was the first severe shortage?

A. Yes. Of course it was a very severe winter.

Q. Now, what have you to say with reference to the effect on hotels and business houses, were they affected by the shortage?

A. Yes, hotels were very much affected, and in a great many cases they did not have a sufficient amount of gas for cooking purposes, and I recall our hospitals were in very bad condition, a great many of the patients suffered, due to the cold; schools were closed temporarily, I think the schools were only closed about two

2949 weeks, or something like that, possibly not fully two weeks.

Q. Churches and public buildings and places of that sort affected?

A. They were.

Q. In a similar way?

A. Yes.

Q. Until that time, the community, generally, was sufficiently taken care of in its supply, was it?

A. Yes.

Q. You referred a moment ago to changes in fuel. Where and what industries have changes been caused by reason of the shortage of gas?

A. The Glass factories located in the Monongahela Valley have nearly all gone to producer gas, or are making preparations to go to producer gas; a number of them have already made their installation of producers; the Wierton Steel Company have provided themselves with a process for pulverizing coal and using pulverized coal for fuel almost exclusively; the Grasseli Chemical Company, at its plant at Zeising, has installed producers, and when it is in operation uses a good percentage of producer gas and fuel there.

Q. What have you to say with reference to any changes
2950 in public buildings, churches and office buildings and structures of that kind?

A. Well, I think that most of the hotels and public buildings have had, their directors have had the foresight to provide them with means of using coal; and the majority of those have gone to coal in an emergency measure, if not altogether.

Q. You mean now, of course, the change from the use of natural gas?

A. Yes.

Q. How about the schools and office buildings?

A. I don't think there has been any change made in our schools to take care of the shortage situation with coal. I know especially in the district where I live, there has been no provision made for using coal in the schoolhouses as yet.

Q. Do you know any of the larger office buildings that have gone to other fuel?

A. Yes, the larger office buildings have gone to coal I think, exclusively, especially the Goff Building, and possibly others.

Q. By the way, what price is industrial gas bringing in Clarksburg now?

A. Forty cents a thousand.

2951 Q. Has the increased price resulted in any curtailment of the use of it?

A. Very much, in fact the price is considered almost prohibitive for manufacturing purposes at forty cents a thousand.

Q. In view of the number of industries that have gone to the use of other fuel, and the decrease by reason of the increased price that you have mentioned, how would you say the amount of gas now being used at Clarksburg would compare with the amount used before the shortages developed?

A. Well, I would say that the present consumption of gas in the Clarksburg District would be possibly less than fifty per cent. of what it was before the shortage of gas and the increased price.

Q. Taking into consideration any changes, would you say that the amount of gas which was used in this community before the shortages would now fully supply the demand at Clarksburg?

A. I do not believe I understand your question, Mr. Steptoe.

Q. I will state it in this way. To supply the domestic and industrial consumption in Clarksburg now, would that require as much or more than the amount of gas that was used, say in the year
2952 1915, before the shortages developed?

A. I don't believe the manufacturers who are now preparing to use the producer gas and pulverized coal, at the present price of coal, would consider going back to natural gas at forty cents a thousand; and consequently, the consumption would be much less than it was in 1914 and 1915.

Q. That is when all of the industries, as well as the domestic consumers, were fully satisfied?

A. Yes, sir, I believe the domestic consumers would yet prefer the natural gas to coal, even at an increased price; they would prefer the natural gas to the coal.

Q. By reason of its cleanliness and other conveniences?

A. Yes, sir.

Q. Have you, in the course of your experience, had occasion to know the production of gas in the field by independent producers, and by independent producers I mean those who have no pipe lines.

A. I have.

Q. Has there always been a market for the gas production of these producers?

A. There has not always been a market for the gas, but in the last ten years there has been a market the greater portion of the
2953 time. A great many contracts that were originally made, were made to take all the gas for about two-thirds of the year, or eight months, and then about one-third of the gas for the remainder of four months.

Q. You refer to contracts. Generally, with whom were those contracts of sale made?

A. I think the Wheeling Gas Company was the first company that started buying gas in here from the independent producer; then later the Hope Gas Company and the Philadelphia Company, as it was known then, which is now the Pittsburgh & West Virginia Company.

Q. As a matter of fact, all of the companies now buy it?

A. All of the companies now buy it.

Q. And I presume those prices have varied from year to year on an upward scale?

A. Yes, sir, that is, most of the prices have, some of them have time contracts and possibly have not increased but very little.

Q. You say that there was not at first any market for the independent producers, that they were not able to market the gas to the pipeline companies in the early days?

A. No.

2954 Q. Why?

A. The natural answer was that, we have all the gas that we need and more too, we have no use for any further gas.

Q. And when they started selling it, what price did they commence with?

A. Three, three and a half, and four cents, that is to the pipeline companies; some gas was sold at less than that for carbon black purposes.

Q. A moment ago you said the answer was, "We have all the gas we want." Who made that answer?

A. Well, in one case which I recall, Mr. Pew, who was then with the Hopw Natural Gas Company, told me that they had all the gas they wanted, and more too, which I know was the case, for they had a number of wells shut in at that time.

Q. You mean your answer to apply only to the Hope Natural Gas Company?

A. That is the only one I know of personally, but of course I understand from other sources that the other companies gave virtually the same answer.

Q. At that time, there was more gas than could be handled, and the pipe line companies had their hands full, or at least so stated?

2955 A. They had, I guess there is no doubt about that.

Q. Was the Wheeling Natural Gas Company in this county, I mean Harrison County?

A. Yes, they had quite a line in Harrison County.

Q. You say that company was the first one to start buying from the small producers?

A. That was the first company that I know of, that is, the first of the large companies that commenced to buy gas from the independent producer.

Q. Do you know whether the Wheeling Natural Gas Company has its lines and holdings in any other county besides Harrison, and if so, what?

A. They have some holdings in Doddridge that I know of, but I don't know of any outside, by personal knowledge, outside of Doddridge and Harrison County.

Q. What became of that company in so far as concerned Harrison County, is it in here yet?

A. No, it was taken over by the Hope Natural Gas Company.

Q. What became of the gas purchase contract they had?

A. It was transferred to the Hope; possibly not transferred, but the Hope continued to take the gas from the line which

2956 they had purchased from the Wheeling Gas Company. I don't know that the contract was purchased, but the line, with its production, was taken over by the Hope.

Q. You don't know whether the entire company was taken over?

A. No.

Q. But just that part of its property?

A. It was my understanding that it was not.

Q. As a matter of fact you know the Wheeling Natural Gas Company was or is one of the subsidiarys of the Manufacturers Light & Heat Company, do you not, or do you?

A. Yes sir.

Q. Do you know of any other companies besides the present company, Clarksburg Light & Heat Company, that have been engaged in furnishing gas, natural gas, to Clarksburg?

A. Yes.

Q. What others?

A. To industries, you mean?

Q. To any part of the community, industrial or domestic.

A. The Shinnston Gas Company furnishes gas to the Grasselli Chemical Company, the Norwood Gas Company furnishes to the Pittsburgh Glass Company, and Lyon Gas Company furnish
2957 some gas to Rolland Glass factory.

Q. Those companies you have mentioned are smaller producers contracting directly with others?

A. Yes sir.

Q. So they are not engaged in public service?

A. No.

Q. I meant to elicit information with reference to those engaged in serving the public.

A. I know of no other gas companies serving the public in Clarksburg outside of the Clarksburg Light & Heat Company.

Q. That is at the present time?

A. At the present time.

Q. Do you recall the Hupton Gas Company?

A. Yes.

Q. The Monongahela Development Company?

A. Yes.

Q. Where were they serving?

A. They were serving Adamston, which at that time was a separate corporation, but now is a part of Greater Clarksburg, and a little section of the country on the Adamston, west, known as Johnson's Pike, I believe, and Ashcraft Addition.

Q. What became of those two companies?

2958 A. They became absorbed by the Light & Heat Company and the Hope Natural Gas Company. I think the Reserve took over the Johnson's Pike and Ashcraft Addition, west of Clarksburg.

Q. Do you recall a local company called the Home Company that was in business here awhile?

A. Yes.

Q. Where did it supply?

A. The Home Gas Company supplied what we term the New Fair Grounds Addition, which is southeast, or rather, east of town, a part of Broad Oaks, and the Haymond Heights, part of the Haymond Heights, I don't think all of it.

Q. What became of that company?

A. The Home Gas Company was taken over by the Hazel-Atlas Glass Company interests, so far as their wells and lines, or a part of their lines, their high pressure lines were concerned, and their low pressure gas was taken over by the Light & Heat Company.

Q. Do you know whether that company was a financial success?

A. I was not interested in it financially, but I understood it was not.

Q. As a matter of fact it is commonly known it failed?

2959 A. It was generally known to be a failure.

Q. Do you know anything about the situation of carbon plants in this section—in Harrison County—and its surroundings?

A. Yes.

Q. That is, with reference to whether or not they are now manufacturing carbon.

A. The carbon black factories in Clarksburg district, or Harrison County, I believe I can put that, have all dismantled or are dismantling their plants.

Q. Well, there were not very many to start with, were there?

A. No.

Q. There was one near Wilsonburg. Do you know how long ago it ceased?

A. There were two at Wilsonburg.

Q. What became of them, and when?

A. One of them has been dismantled, I will say, four years, approximately, and the other one possibly not quite so long.

Q. Was not there or is not there one out on the Shortline Railroad in this district, out near the Town of Dola?

2960 A. Yes.

Q. What about it?

A. I am under the impression that it is dismantling its plant; that is my understanding, at least; that they have decided to dismantle the plant, if they have not already done so.

Q. There was one, the Columbian Carbon Company, in Lewis County. Do you know what became of it, or its gas supply?

A. I know it was dismantled, I know that the gas was being used for manufacturing purposes for a while in Weston but what use is being made of the gas now, I don't know.

Q. You do know they have ceased making carbon?

A. Yes, I do know they have ceased to make carbon.

Q. What influence, if any, has the increased price of gas had on the manufacture of carbon black in this section?

A. The gas producers have come to look upon the production of carbon black from natural gas as a wasteful method of using natural gas, and its value for domestic purposes is so much greater than it was for carbon black, that they have ceased, due to the increase in the value of gas.

2961 Q. In other words, the gas was worth more for marketing to the public than for use in the manufacture of carbon?

A. Yes sir.

Q. That would obtain where the gas could be marketed, would it not?

A. Yes sir.

Q. Are there sections where gas is readily or usually marketable, where carbon is still being manufactured, or do you know?

A. I don't think that there is any place in the gas belt of West Virginia, that is, the old gas belt I speak of now, not some that might have been recently developed, but what there is a gathering line of the Hope Natural Gas Company or the Pittsburgh & West Virginia Gas Company, or the Manufacturers Light & Heat Company of the West Virginia Central Gas Company, that is in the known field, that is, fields that have been producing for any length of time.

Q. That would be substantially in the north central section?

A. Yes, and the southern end of the state is very well covered by the United Fuel Gas Company, so the known fields, I could see

no reason why a man would have any excuse for wasting gas in making carbon black.

2962 Q. About how long would you say the gas producing territory, or the proved gas territory of this and adjoining counties has been held under lease,—about how many years past?

A. Well, it has been more or less under lease practically every since I can remember. I remember when I was quite a small boy, of leasors coming through and leasing up the land for oil and gas purposes and I would think I would be safe in saying the past twenty-five years there has not been a period of any great length of time at which there was any material acreage that was not under lease by someone, usually the South Penn Oil Company, or, in the former days, the Carter Oil Company, Eastern Oil Company and the Southern Oil Company, which was Barnesdale interests.

Q. In the early days, what was the principal holdings company in this county?

A. The principal holding company was the South Penn Oil Company.

Q. And through what section and counties were its holdings?

A. I believe I could make that in practically every county in the State that has produced oil.

2963 Q. Do you know whether or not it held territory in the early days which later developed to be gas?

A. Oh yes.

Q. And where did the old South Penn Oil Company's holdings go when gas was developed in its territory developing gas?

A. The first thing I knew anything other than the South Penn Oil Company holding any, I guess was the old company that was called the Flaggy Meadow, and the gas was usually handled under the Flaggy Meadow, and then later the Mountain State, and then later the Hope Natural Gas Company, and on down to the present time.

Q. All of those companies were owned by the same interests?

A. They were supposed and generally understood to be connected with the South Penn Branch of the Standard Oil Company, until, of course, the Hope Gas Company, there was some kind of a divorce proceeding between the South Penn and Hope Gas Company by which there was not the co-operation, I will say, or close relationship, that there was between the old Flaggy Meadow and Mountain State.

Q. I think my specific question was, what became of the territory, the holdings, of the South Penn, when they developed gas territory.

2964 A. I had intended to answer that by saying that in the beginning I think they were turned over to the Flaggy Meadow and later to the Mountain State and later to the Hope Gas Company, such territory as proved to be gas territory.

Cross-examination.

By Mr. Weil:

Q. Mr. Devericks, you say about twenty-five years ago some of these companies that you named, came into this section of the country taking up leases?

A. Yes sir.

Q. And that was such companies as the Carter Oil Company and the Southern Oil Company and the South Penn?

A. The South Penn, but not the Carter Oil Company; the Carter Oil Company is the outgrowth of the old Kanawha Oil Company, I think, which was a later date.

Q. Aren't you mistaken about that? Was not the Carter Oil Company an independent company that was organized originally by John J. Carter, who was an oil producer for thirty or forty years or more?

A. I recall Mr. Carter being president of the Carter Oil Company, and he developed around Sistersville, but as I recall
2965 it, the Carter interests took over, when the Carter Oil Company was formed, that is, I am speaking now of the Standard Oil Company's Carter, as we term it, the branch of the Standard Oil known as the Carter Company, took over the holdings of the Kanawha Company, and it was about that time it was merged with the Standard interests, as I understand it, but before that Mr. Carter had operated, I think, independently.

Q. And had he operated in this section?

A. Oh no. Yes, in West Virginia, he had leases in Tyler County, possibly Preston, and especially in Tyler and Doddridge County.

Q. What about the section around Mt. Lewis in Lewis County?

A. I don't know where Mt. Lewis is.

Q. What about Lewis County, didn't he have holdings in Lewis County, I mean the Carter Oil Company?

A. It may have had. I don't personally know of any holdings they had in Lewis County.

Q. Leaving then, the Carter Company out of consideration for the present, about twenty-five years ago you say the South Penn Oil Company and the Southern Oil Company, which was a
2966 Barnsdale institution, as you stated, came into this section, taking up leases, and those leases were primarily were they not, for oil purposes?

A. Yes sir.

Q. Like most of the leases of that time, they covered both the oil and the gas?

A. Yes sir.

Q. That was the general form of lease that was then taken for oil and gas underlying a tract of land, leases for oil and gas purposes?

A. Yes sir.

Q. The primary purpose, however, of those companies, as generally understood, was to obtain oil development?

A. Yes sir.

Q. In those days natural gas was not regarded as a valuable find, was it?

A. No, we did not understand natural gas then as we understand it today and could not handle it. The pressure was very high and danger,—and it was not generally used then as it is today.

Q. And those companies came in, took up blocks of leases, and at that time it was surely wild-cat territory, was it not?

A. I do not believe I know what you mean by wild-cat
2967 territory.

Q. Well, it was territory that had not been developed by the drilling of oil wells.

A. Oh, not been defined, no; but Dr. I. C. White, who is State Geologist, had, even back at that time, given his opinion,—which later proved to be true,—that this was an oil and gas belt.

Q. Well, we may assume, may we not, that these companies would not have come into this section of the country and taken up a large block of leases for oil and gas development, unless they had some theory or the opinion of some geological expert, or other information that waranted them in assuming that it might be oil and gas territory?

A. It would not be likely, as conservative as they are.

Q. And they came in and took up these blocks of leases, then, for that purpose?

A. Yes sir.

Q. And began their operations then, or some years after, by drilling wells?

A. Yes sir.

Q. And as these wells were drilled by these companies, they developed the oil and gas in this section of the country?

A. Yes sir.

2968 Q. And those companies are entitled, are they not, to be designated as the pioneers in that developement in this section?

A. No sir, I would not term it that way, because there have been a great many independent operators, small operators, who gathered up just a few acres here and there, who have been developing a great deal in this section of West Virginia, and in fact, a great many of the finds have been due to investigation of smaller operators.

Q. But that was subsequently, wasn't it?

A. No, there was a spirit of adventure among the people who went after it and attempted to develope it.

Q. And these individuals and these parties whom you mentioned, found no difficulty in obtaining leases for that purpose, did they?

A. Well now, if you want to make that a lease here and there, I will say no; but if it came down to leasing in any great quantity, I mean in large blocks, there was but little territory that was not taken up, it being held by some of the larger companies.

Q. Did these individual operators whom you have referred to, as a rule, desire to obtain large blocks of territory? Were not
2969 they satisfied to obtain comparitively small areas, and drill their wells upon it accordingly?

A. I could not call them operators exactly; it is a condition that

exists in practically any community where there has been a leasor in and taken up some oil and gas leases, for the people in the community to imagine that the oil and gas is there, or those people would not be leasing; they work upon their imagination along that line; quite frequently somebody inexperienced in the business will get together a sufficient amount of money and drill wells and open up territory.

Q. Now then, let me repeat my question, regardless of the designation or the name by which you desire to call it, isn't it the fact that these parties, who entered into these operations, as a rule did not desire to obtain a large block of territory on account of the cost and expense of carrying it?

A. Not in every instance.

Q. I am asking you for the rule.

A. The rule was this: That those who were financially able to do it would rather have had the large acerage, but those who
2970 were simply promoters and cared but little whether it was a productive well or non-productive well, preferably non-productive, in some cases where they would be selling interests, and there would be more money in not having a well produce than there would be in having it produce.

Q. I wish you would give the formula for that. It is rather a new adventure in finance. Will you explain to us how it would be profitable for promoters, even in West Virginia, to take up a property and make more money out of it when it would not produce than when it did?

A. This is not for the record——

Q. Yes, this is for the record.

A. All right, then I will say this: There has been a great many men who came here following the oil business, who would promote a company, and not only here, but every other field throughout the United States, I think I am safe in making it the United States, who have gone into the territory and gathered up leases, or a lease, rather, a small acreage, and started out to sell a one-thirty-second or a sixteenth or a quarter or one eighth, or something like that, simply for the money that they would be able to obtain for those interests in excess of what it would cost to drill a well, and there has been men who lived on that; and we had a recent example of
2971 that in McKeesport, and I am surprised that counsel had never heard of McKeesport.

Q. Do you want that to go down to the court as your answer to my question?

A. I asked for permission not to put that in the record. Every word of which is true.

Q. Is that your answer to my question? And I ask the stenographer to repeat the question to the witness.

(The question read by the stenographer as follows:)

"Q. I wish you would give the formula for that. It is rather a new adventure in finance. Will you explain to us how it would be possible for a promoter, even in West Virginia, to take up a property

and make more money out of it when it would not produce than when it did?"

Q. Now, the question having been read, I repeat and ask you if you want the answer you just made to be your answer?

A. It is the formula you are asking for. That is the formula. The answer which I gave you is the formula.

Q. Who developed the Wolf Summit field?

A. The South Penn Oil Company.

Q. Who developed the Fink field?

A. South Penn Oil Company.

2972 Q. Who developed the Sand Fork Field?

A. The Copley field?

Q. The Copley field.

A. That is South Penn Oil Company.

Q. Who developed the Shinnston field?

A. I think the South Penn Oil Company.

Q. Who developed the Doddridge County field, around the center part, the first producing field in Doddridge County?

A. I don't know that I could answer who drilled the first producing well in Doddridge County.

Q. The well known Sullivan heirs well, wasn't that drilled by South Penn Oil Company?

A. Possibly.

Q. Now, will you give us the name of some of the fields in the early development that were developed by these small local companies, or groups to which you have referred?

A. The Cornwallis field, in Ritchie County.

Q. And when was that?

A. The Cairo field in Ritchie County.

Q. Just give me the date of that.

2973 A. I could not give you the exact date, but it was in the latter part of 1890, I would say.

Q. And the next was the Cairo, you say?

A. Yes sir.

Q. In what county was that?

A. Ritchie.

Q. About when was that?

A. 1897 or '98, somewhere along there in the '90's it was.

Q. The latter part of 1890?

A. Yes.

Q. What others?

A. The Buckie Run field, in Ritchie County, West Virginia.

Q. When was that?

A. That was about 1907, or 1908, somewhere along there.

Q. Anymore?

A. The Blue Creek field in Kanawha County.

Q. When was that?

A. That was along about the same time, possibly a little bit earlier than that.

Q. What is the date?

2974 A. 1905 or 1906, somewhere along there, maybe 1907.

Q. It was sometime after 1905?

A. Yes sir, and the Falling Rock section in Kanawha County.
Q. When was that?
A. The drilling on Falling Rock, I think the first drilling in there was possibly along about 1907 or '08, but the field was not opened up to what you could call a defined field until about 1910 or '11.
Q. But it was begun in 1907 or 1908, somewhere along in there?
A. Yes sir.
Q. What other?
A. I don't believe I call to memory any others now.
Q. In the latter part of the '90's, to which you have referred, 1897 and 1898, along there, there had been by that time a little drilling and operating by South Penn Oil Company and by the Barnesdale interests, in this section of West Virginia, had there not?
A. Yes, there had been some drilling; quite a little drilling, in fact a number of fields that were well developed.
Q. At that time?
A. Yes sir.
2975 Q. And that was then after these number of fields had been developed by the South Penn Oil Company and by the Barnesdale interests, when these operations to which you have referred took place?
A. Possibly in the Cairo and Cornwallis fields, because that was along about the same time.
Q. Were not these developements in these other fields, prior to 1897 and 1898?
A. Some of them possibly were.
Q. And had not some of these fields been developed, if not circumscribed or definitely defined, eight or ten years prior to that time?
A. These fields I have described?
Q. No.
A. Oh, West Virginia had become recognized as an oil producing state, yes sir.
Q. And when was the Wolf Summit field first opened up, and when was the first well drilled?
A. I think in 1897 or 1898, somewhere along there.
Q. Wolf Summit?
A. I think so.
Q. And when was the Fink Field?
2976 A. The Fink field was before that.
Q. About how long, approximately?
A. Approximately, I would say, '95 or '96, and possibly before that even, I am not real positive about that Fink field, but in there somewhere.
Q. What about the Sand Fork field, when was that developed?
A. It was developed about 1900 or 1901.
Q. And the Shinnston field?
A. That was 1907 or '08, somewhere along there.
Q. 1907 or '08 or 1897 or '98?
A. No, 1907 or 1908.
Q. And when was this first well drilled in Doddridge County which began the opening up of those fields in Doddridge County, do you recall about what that date was?

A. I think possibly 1892 or 1893, somewhere along there.
Q. 1892 or 1893?
A. Yes sir, something like that; possibly before that.
Q. It might have been, I suppose, 1890?
A. I said it might have been a little before the date named, because I was not so particularly interested, more than a young
2977 chap who was excited over the oil business.
Q. At that time, you were not actively engaged in the oil and gas industry?
A. No.
Q. When did Barnesdale come in?
A. I don't know the date at which Mr. Barnesdale commenced to operate in West Virginia.
Q. That was in the early part?
A. It was in the early stage of the game.
Q. It was in the early developement of the oil and gas fields in this section?
A. Yes sir.
Q. Would you say it was somewhere in 1890, along there?
A. I would say it was before 1900 that Barnsdale came in here. I think 1900, possibly the first I knew of any Barnesdale interests I think, was in Ritchie County.
Q. And about what time, if you can approximate it?
A. I would say 1898 or 1899, somewhere along there.
Q. Did he drill some wells?
A. Yes.
Q. And got some developement?
A. Yes.
2978 Q. In the Ritchie County field?
A. Yes.
Q. What was that field known as?
A. This particular section now that I refer to is the Dry Ridge. I think they call it, Dry Ridge.
Q. After oil and gas had been discovered in any new territory, or new field, isn't it the general custom, from your knowledge of the business, for independent operators, or those desiring to engage in the oil and gas business, to come in and take up what leases they can and drill wells in the hope of finding oil or gas?
A. Yes.
Q. That is the universal custom in every field you have any knowledge of at all?
A. Yes sir, it is a natural thing for a man to try to get where the money is, and they imagine it is in the oil and gas business.
Q. At the time the South Penn Oil Company began the taking of these leases in West Virginia and taking up the blocks of leases that they were taking up at the time, do you recall that other oil and gas operators at that time ridiculed their efforts to obtain oil and
2979 gas on the advice of a geologist—do you remember the general discussions of those days?
A. Yes.
Q. That was true, wasn't it?

A. I remember Mr. T. Moore Jackson, I think it was, and Dr. I. C. White, took up a considerable amount of acreage, that is before I ever knew of the South Penn Oil Company, and that must have been possibly back as early as 1890, no, it was before that, something which transpired makes me place it before 1884—but they took up a considerable amount of acreage at that time, and there was quite a discussion about it. Of course at that time, I knew nothing at all of theoretical discussions or anything of that kind—I was too young at that time to recall anything of the nature of a geological character—but I recall later on, when the South Penn Oil Company, or when its leasors went South of the Baltimore & Ohio Railroad line between here and Parkersburg, that it was considered not good judgment to lease south of the B. & O. Railroad's line; that is in Doddridge County I am speaking of.

Q. You mean that was the comment of other operators?

A. Yes, that was not the opinion of men who were learned
2980 in the oil business; it was some people remarked there was not any oil south of—not based upon any knowledge, but just a matter of comment; and of course when the South Penn Oil Company first commenced employing geologists, or the Standard Company, I will put it, first commenced to employ geologists, it was considered much of a joke.

Q. Do you know that as a matter of fact that after the South Penn Oil Company had taken up this block of leases and had drilled a large number of wells, that it was the current comment and report throughout the West Virginia fields and districts, that they had lost millions of dollars, and would never get out of the hole; that that was general comment of the oil and gas producers in this country, in this section?

A. I will agree that was the case as to comment, but I don't know that it was based upon facts. It might have been just simply an opinion of a layman who knew nothing at all about it, and it may have been facts for that matter, I don't know.

Q. So far as you know, was not that the first time in the history of the business where a large general movement of that character was undertaken by any large oil or gas company?

2981 A. Yes.

Q. The first time?

A. Yes, that is to my knowledge, and in fact, I have not, through what little oil and gas literature I have been able to get hold of, found of any such undertakings as was undertaken by the Standard Oil interests at that time.

Q. It was the first experimental move in that direction, so far as you have been able to learn?

A. Oh no, not the first experimental move, because we have been producing oil for years before that.

Q. I don't mean that, of course. I mean it was the first of where any general movement had been made whereby they had taken up large blocks of territory with a view of subsequent development?

A. It was the first in which there had been such an aggregation of capital gotten together for such a large development, yes sir, at that time; had been in a small way before that.

Q. Did they get any aggregation of capital together for that purpose? Had not that aggregation of capital been in the business some fifteen or twenty years before?

A. That might be true, but they had the capital to do it.

2982 Q. The Standard Oil Company had been in the business a great many years before that, and they had the capital to do it before that if they had so desired, but this was the first time that they did undertake, or any one else undertook, to do it in that way?

A. Yes.

Q. You spoke of your property in what you call Coal District. How many wells do you have there?

A. I believe I have eleven wells in Coal District.

Q. And that, I believe you said, you sell to the Hazel-Atlas Glass Company?

A. Hazel-Atlas and the Rolland.

Q. How much gas to you deliver there, just approximately?

A. Approximately ten million cubic feet a month.

Q. And you- other holding is in Grant District, you said, near Lost Creek?

A. Yes.

Q. And that you sell to the West Virginia Central?

A. Yes sir.

Q. How many wells have you there?

A. Two.

Q. And how much gas to you supply them?

2983 A. The gas delivery there varies with the line pressure; from three to seven million a month.

Q. Three to seven million feet a month.

A. Yes; of course that depends upon the line pressure, the higher the line pressure, the less we are able to put in.

Q. You do not use a compressor?

A. No, we don't.

Q. Then how many years would you say that the natural gas business has been stabilized to the extent that there has been a steady market for the gas produced by the gas producers? Or, to put it in another form, is not it only substantially since 1915?

A. No, I would put it earlier than that. I believe that it has been on a substantial general use, I think possibly we can say in 1900, because it was pretty generally used in towns and cities of any size throughout the Monongahela Valley, and the western part of the State in towns of any size.

Q. You evidently do not understand my question. Gas has been in use in different sections of the country for the purpose of supplying certain towns or localities with gas since 1879 or '80, as in the Bradford District?

A. Yes.

2984 Q. But prior to 1915, there was produced in the West Virginia Oil and gas district more gas than there was a market for the same, is not that true? So that even the large gas companies, as well as individuals frequently shut their wells in?

A. That was true for the summer months, that there was more gas than had been—let me put it this way,—that the open flow or delivery power of the wells drilled in, was greater than there was demand for gas in the summer months, and due to the extension of their low pressure plants throughout Pennsylvania and Ohio and West Virginia, the larger companies had so extended their surface by the year 1915, the winter of 1915, that they did not have sufficient gas in reserve to take care of the peak of their load, was not sufficient gas in reserve; but during the period of time when it was not extremely co*al*, there was more than ample gas.

Q. That shortage, however, occurred and first became manifest in the extreme winter of 1916 and 1917, didn't it?

A. Yes, it was worse then than ever before.

Q. And prior to that time—let us put the date then a little early—prior to 1914, these extensions to which you have referred, in Ohio and Pennsylvania and Maryland and Kentucky and Indiana had not at that time been made, had they?

2985 A. Some of them had.

Q. Most of them had not been made at that time, is not that a fact?

A. In 1914?

Q. Yes.

A. I don't know. Now, to be frank, I don't know when those extensions were made. I know the larger companies were making great efforts to find a market for the gas which they had, were trying to find a market for it so they could go ahead and produce it and I could not state the date at which those extensions were made.

Q. Would not you feel safe in saying that that occurred sometime then, let us put it, I don't want to pin you down to any definite date, sometime between 1910 and 1915? These extensions were then being made between 1910 and '15?

A. They were doing a great deal of construction work during that time.

Q. And building their lines, accordingly.

A. More pump stations, I think, and gathering lines, than extending lines, possibly.

2986 Q. Now, when a gas field is developed by the operator, there is no way of marketing that gas until gas lines are brought into that field, is there?

A. No, not unless there would be some carbon black or something like that that would go to the local field; it is a matter of the construction of pipelines to carry it to the point of delivery.

Q. And as to whether or not the local operator, or the producer, would feel warranted in building certain lines himself, would depend upon two considerations, would it, first, the quantity of gas that he had developed, and secondly, the length of the line and the cost and expense of laying it, those are the two chief considerations, are they not, that the producer would have to consider before he could undertake, or would undertake, the laying of a line to use his gas?

A. And you might add a third, the consumption of gas after he had the line laid. I believe it would be possible, in a great many

instances, to lay lines to a town that you could not supply all the gas that the town would consume. It would be a profitable measure to do that, providing your gas was in sufficient quantities to warrant the laying of the line into this community.

Q. And also the length of the line, that you would have
2987 to lay.

A. Of course that would depend upon the length of the line.

Q. Now then, as these gas fields are developed from time to time, by producers, is it not the fact that the larger gas companies, depending up-n the quantity of gas that is developed, extend their lines into those fields for the purpose of obtaining gas?

A. Yes.

Q. And the producer relies upon obtaining his market in that way, if he finds gas instead of oil?

A. A great many, in fact nearly all cases, is a case of depending upon some of the larger companies to carry their gas or buy it, rather.

Q. The only way they can get this gas, if it is not directly upon their then constructed lines, is to lay a line into that field?

A. Yes sir.

Q. And frequently, when they lay a line into that field, and especially their gathering line, to obtain the gas, they are compelled to change the construction, either by putting in larger mains, when the gas production warrants or by putting in pressure stations
2988 upon the lines,—that has been the experience, has it not?

A. The experience has been of recent years, since the depreciation of the rock pressure, that it was necessary to enlarge the lines so they would have a greater carrying capacity, and installing pump stations for boosting the gas ahead.

Q. Any community in proximity, or in a practical distance of any such developement, has the opportunity, if it so desires, to organize these companies and lay their lines into those fields just the same as the larger companies, have they not?

A. If there is territory that can be obtained.

Q. I mean aside from the purchase of territory, buying gas from the producer who produces the gas, the independent producer.

A. Of course the local distributing company would have the same opportunity of going into the field and buying gas that the larger companies would.

Q. And the independent producers themselves, sometimes, are warranted, or feel warranted in laying their own line and transporting their own gas and such as they can obtain from others,
2989 to these centers of population or to industries or plants that are in the market for the purchase of gas?

A. Yes.

Q. Isn't it a fact that most of these plants, gas distributing plants, in most of these centers of population in West Virginia, in and around these fields, were originally built by local capital, or established by local capital, is not that the fact?

A. That was true with Clarksburg and a great many other cities, but there was another feature which entered into it, that possibly should be taken into consideration, and that was the competition of

the larger companies, who invariably, well, possibly not invariably, but most usually, also sought a franchise for the same purposes which the local companies did, and sometimes it was the reverse, that the larger companies had the plant in, and local concerns saw or thought they saw money in it, and would also secure franchises and start delivering gas.

Redirect examination.

By Mr. Steptoe:

Q. Did you ever hear of Colonel T. Moore Jackson?

A. Yes.

2990 Q. And I believe you referred to Dr. White, State Geologist?

A. Yes sir.

Q. Do you happen to have any knowledge of those two, and possibly some associates with them, being interested in taking up territory and developing it, in the very early days?

A. I know of their being interested in the very early days in taking leases, but I don't know of any developement work that they did. I do know of leases, however.

Q. Where did those leases eventually land, in what company?

A. That, I can't say, where the leases went to, because the time which I refer to, Mr. Jackson and Mr. White taking leases, I was quite a small boy, and I only recall the circumstances which happened during that time.

Q. You do not know then that the earliest holdings of the Standard Oil Company were the leases taken by Colonel T. Moore Jackson?

A. No.

Q. You don't know of any drilling by these two?

A. Not in the early stages of the game. I know they did

2991 some drilling, but back in the time that I refer to, I have no knowledge of their drilling. I do know, however, later on they did some developement work.

Q. Do you know anything about any holdings and developement in Doddridge County by Dr. White and Henry Ash and some others?

A. I know of that.

Q. Was that before or after the days of the South Penn Oil Company?

A. That I couldn't answer.

Q. You spoke of the local utilities having the same opportunity of going out into the field, in the early days, and acquiring territory that the larger companies had. What have you to say of the ability of the local utilities to go out into the fields and lay lines? I mean to ask particularly about this: Some of these local utilities furnished small places, did they not?

A. Yes.

Q. And local capital?

A. Yes.

Q. What would you have to say about their ability, from a

financial standpoint, of those companies to acquire large holdings?

2992 A. Well, take the small communities, were usually composed of men who put in a small amount of money into a small corporation, which didn't have a sufficient amount of money to go ahead and acquire vast holdings, and the consumption which they could anticipate for a small community would not have warranted it, from a financial standpoint; and the same would possibly hold good with some of the larger communities, it would not have been possible to have held acreage in any great quantity for future development, due to the limited demand for the gas and the expense of building extension of lines.

Q. Take a specific example, for instance the Lumberport Gas Company supplied the Town of Lumberport and vicinity.

A. What would be necessary for it to do in order for it to acquire holdings and obtain the use of reserve acreage, say in Lewis County?

A. If it could *b*et a reserve acreage, or if there was reserve acreage available in Lewis County, it would, even then, not be a practical proposition for them to pipe gas for such a small consumption as they would have in Lumberport.

Q. Now would you have to go as far away as Lewis County

2993 for that condition to be true?

A. No.

Q. And under the present existing condition of rock pressure throughout this section, could they hope to transport and *a*ppreciable amount of gas that distance by natural pressure?

A. Well, it would require a very large line under the present rock pressure to transport any appreciable amount of gas from Lewis County to Lumberport.

Q. What would you say as to the neccessity for its putting in pump stations?

A. Of course the pump station would facilitate its delivery through the smaller lines, but it would be an impractical proposition financially, I would say, to undertake to bring it anything near that distance for a place so small as Lumberport.

Q. In other words it would be out of proportion to its plant, consumers and enterprise?

A. Yes sir.

Q. Now assuming, for the sake of argument, that its reserve territory acquired was surrounded or adjacent to territory held by the pipeline companies using pump stations, the effect on the

2994 reserve acreage so held would be what?

Mr. Weil: That is objected to for the reason that the witness has not qualified as an expert so as to be able to testify upon this question.

Q. I will ask you first——

The Commissioner: Do you withdraw that question?

Mr. Steptoe: No.

A. If the pipeline companies operating their pump-stations with gathering lines surrounding the reserve territory held by themselves

or by any other companies, or by the Lumberport Gas Company, as we are illustrating, to the extent that the gathering lines would be taking that gas, it would be reducing the quantity of gas in such a reservation, or reserve territory. It would be nothing more than a resevoir of gas.

Q. Do you know whether or not any companies operating in this section, and I refer especially to the Pittsburgh & West Virginia and Carneigie and Hope Natural Gas Company and Reserve Gas Company, are using suction on their wells?

A. Now if you mean there by suction that they have it reduced below atmospheric pressure——

Mr. Steptoe: I do.

A. I think that I know of no territory which they have
2995 reduced yet to the extent of a minus atmospheric pressure, that is in this Monongahela Valley. However, there might be some territory that they have on actual partial vaccu-m.

Q. What about the West Virginia Central Gas Company, do you know whether or not it is taking gas on suction, or below atmospheric pressure?

A. It is not to my knowledge. I do not think it is. It did at one time possibly get below atmospheric pressure, but is not, to my knowledge, at the present time, taking gas at less than atmospheric pressure, or even at atmospheric pressure. They have some line pressure. Those suction lines as we call them, are misleading in a way. While a line that is discharging gas into a compressor plant is spoken of as a suction, and really is suction line, that does not necessarily mean that those lines—that there is less than an atmospheric pressure on that line.

Q. It is used in the sense of being a feeding line?

A. It is used as a gathering line, yes.

Mr. Steptoe: On behalf of the defendant State, we desire here to offer in evidence a certified copy of the proceedings had in the condemnation proceedings of Wheeling Natural Gas Company against Enos D. Tennant and others, to be marked for identification,
2996 Exhibit "West Virginia No. 51."

Mr. Weil: The *com*demnation proceedings are objected to as irrelevant and immaterial.

The Commissioner: Note the objection and let the exhibit be received.

Mr. Steptoe: We also offer in evidence certified copies of the following franchises granted by the County Court of Harrison County for the use of the public roads of the county, on the following dates and to the following persons or companies:

Franchise granted July 18, 1906 to the Reserve Gas Company;

Franchise granted under date of April 3, 1907 to Hope Natural Gas Company, with acceptance thereof by Hope Natural Gas Company under date of June 19, 1907;

Franchise granted under date of June 27, 1905 to the Hutton Gas Company, together with an order partially revoking that fran-

chise in the name of Hope Natural Gas Company, its then assignee, under date of September 14, 1908;

these five several papers being bound together and certified together, we wish to be identified as Exhibit "West Virginia No. 52."

Mr. Weil: This offer is objected to as incompetent, irrelevant and immaterial, there being no objection, however, to the form of
2997 certificate.

The Commissioner: Note the objection on the record and the statement of counsel, and let the exhibit be received.

Mr. Blue: The State of West Virginia now offers in evidence a copy of the application of the Hope Natural Gas Company for an increase of rates, filed with and before the Public Service Commission of West Virginia in case No. 663, verified by the affidavit of Mr. John G. Pew, under date of November 26, 1917, and which, for identification, will be marked "West Virginia Exhibit No. 53", and as such exhibit, is filed by the State of West Virginia.

Mr. Weil: Objections will be made to all of these exhibits after all of them have been offered.

Mr. Blue: The State of West Virginia offers in evidence an attested copy of application of the United Fuel Gas Company asking for an increase of rates, filed with and before the Public Service Commission of West Virginia in Case No. 585, and verified by the affidavit of Mr. R. J. Altizer, its vice-president, under date of May 21, 1917, which copy, for identification, is marked "West Virginia Exhibit No. 54," and so identified, is filed;

The State of West Virginia offers in evidence, and as part of the record, an attested copy of the application of the Pittsburgh
2998 & West Virginia Gas Company, applying for an increase of rates, in case No. 1105, and filed with and before the Public Service Commission of West Virginia, and verified by Mr. A. Hulburt under date of August 14, 1920, and which copy, for the purpose of identification, is marked "West Virginia Exhibit No. 55", and so marked and identified, is filed as part of the record;

The State of West Virginia offers in evidence, and as part of the record, an attested copy of an order entered by the Public Service Commission of West Virginia on the 25th day of November, 1918, filing the application of the Reserve Gas Company for authority to change its rates, in case No. 828, and which attested copy, for the purpose of identification, is marked "West Virginia Exhibit No. 56", and being so marked and identified is filed as part of the record;

An attested copy of the order of the Public Service Commission of West Virginia entered on the 11th day of March, 1919, upon application of the Reserve Gas Company for authority to change its rates, in case No. 828, allowing the rates and charges as set forth in said order, and which attested copy, for the purpose of identification, is marked "West Virginia Exhibit No. 57", and as so marked and identified, is filed;

2999 The State of West Virginia now offers in evidence an attested copy of an order entered by the Public Service Com-

mission of West Virginia on the 24th day of June, 1920, filing the application of the Manufacturers Light & Heat Company, in case No. 1071, for authority to change its rates, and which attested copy, for the purpose of identification, is marked "West Virginia Exhibit No. 58", and as so marked is filed;

The State of West Virginia now offers in evidence an attested copy of an order entered by the Public Service Commission of West Virginia on the 18th day of August, 1920, upon the application of the Manufacturers' Light & Heat Company for authority to change its rates, in case 1071, allowing the rates as set forth in said order, and which attested copy, for identification, is marked "West Virginia Exhibit No. 59," and being so identified, is filed.

Mr. Weil: These offers of exhibits Nos. 53, 54, 55, 56, 57, 58 and 59 are objected to as incompetent, irrelevant, and immaterial, there being no objection however, to the form of certificates of these papers.

The Commissioner: Note the objection and let the exhibits be received, subject to the statement made by counsel.

Mr. Blue: It is agreed and stipulated by counsel for the
3000 plaintiffs, and the State of West Virginia, that if R. B. Bernheim were present and duly sworn as a witness by the commissioner, he would state under oath as follows:

First, that he is now and has been since the organization of the Public Service Commission of West Virginia in the year 1913, and at all times since that date, the secretary thereof; second, that the State House of West Virginia in which the offices of the Commission were located, was destroyed by fire on the 3rd day of January, 1920, and that the petitions or applications in case No. 1071, Manufacturers' Light & Heat Company, for authority to change rates, a petition or application in case No. 828, Reserve Gas Company, for authority to change rates, were lost or destroyed in and by such fire; third, that he would testify that the following named companies are Public Service Corporations having Tariffs filed with said Commission, although such tariffs were lost in the fire which destroyed the State House, but that the names of the Public Service Corporations appear on the list of Public Service Commission of West Virginia as follows:

Allen, Virgin I.
Bailey Gas Company.
Berea Heat & Light Company.
Bridgeport Natural Gas & Oil Company.
3001 Bristol Oil & Gas Company.
Buckhannon Fuel Company.
Cabot, Godgrey L.
Cameron Heat & Light Company, The.
Carnegie Natural Gas Company.
Cather Gas Company, J. B.
Charleston-Dunbar Natural Gas Company.
City & Suburban Gas Company.
Clarksburg Light & Heat Company.
Columbian Carbon Company.

Comet Oil & Gas Company, The.
Empire Petroleum Company.
Fay Company.
Federal Coal Company.
Gassaway Gas Company.
Glenville Natural Gas Company.
Harshbarger Oil & Gas Company.
Home Petroleum & Natural Gas Company.
Hope Natural Gas Company.
Huntington Developement & Gas Company.
Imperial Oil & Gas Products Company.
Jane Lew Light & Heat Company.
Keener's Oil, Natural Gas & Fuel Company.
3002 Light, Fuel & Power Company of West Virginia.
Lumberport Gas Company.
Manufacturers Gas & Electric Light Company.
Manufacturers Light & Heat Company.
Monarch Carbon Company.
Monongahela Valley Traction Company.
Montgomery Gas Company, The.
Mountain State Gas Company.
Natural Gas Company of West Virginia.
Northern Natural Gas Company.
Pittsburgh & West Virginia Gas Company.
Pt. Pleasant Natural Gas Company.
Raccoon Gas Company.
Randall Gas Company.
Reno Gas Company.
Reserve Gas Company.
Richter Oil Company.
Salem Natural Gas Company.
Shield's Oil & Gas Company.
Shinnston Gas Company.
South Penn Oil Company.
Centerville Pipe Line & Gas Company.
Columbia Gas & Electric Company.
3003 Southern West Virginia Oil & Gas Corporation.
Travis, G. B.
Troy Oil & Gas Company.
United Fuel Gas Company.
West Union Gas Company.
West Virginia Central Gas Company.
West Virginia Heat & Light Company.
West Virginia & Maryland Gas Company.
Wetzel Natural Gas Company.
West Virginia Traction & Electric Company.

But that the following companies do not appear on the list of the Public Service Commission of West Virginia, nor that the witness had personal recollection of their ever having filed tariffs with the Public Service Commission of West Virginia, although they might

have made reports to the Inspector or Statistical Department of the Public Service Commission, the companies being as follows:

Aizpuru Oil & Gas Company.
Dickinson, Joh. Q.
Gilmore, B. F.
Moore, Herman.
Ohio Fuel Oil Company.
Owens Bottle Machine Company.
3004 Rosedale Fuel & Water Company.

Mr. Weil: This stipulation and agreement is made without *to* intending to admit that the companies named are all of them Public Service Corporations, nor as an implication that they were all of them organized and existing under the laws of the State of West Virginia.

Mr. John: The State of West Virginia here offers in evidence certified copies of the reports and orders of the Public Service Commission of the Commonwealth of Pennsylvania in the following styled cases, entered upon the dates following, namely:

Louis Franke vs. Johnstown Fuel Supply Company and People's Natural Gas Company, December 4, 1917;

People's Natural Gas Company vs. Public Service Commission of Pennsylvania, October 31, 1918;

Trades and Labor Council of Uniontown, and others, and John Duggan and others vs. Fayette County Gas Company, October 29, 1917;

Fayette County Gas Company vs. The Public Service Commission of Pennsylvania, October 31, 1918;

John O. Ulrich vs. Eastern Pennsylvania Light, Heat & Power Company, November 23, 1915;

3005 John O. Ulrich vs. Eastern Light, Heat & Power Company, April 3, 1917;

Fred Palmer-Porroner vs. The Consumers' Gas Company of Reading, October 29, 1917;

T. D. Washburn, and others, vs. McKeane Natural Gas Company, January 14, 1918;

William B. Horton vs. Shenango Valley Electric Light Company, December 10, 1918;

City of New Castle, and others, vs. City of New Castle Water Company, March 31, 1919;

H. C. Gibson, and others, vs. Union Heat & Light Company, April 15, 1919;

C. W. Dean vs. Abington Electric Company, May 13, 1919;

R. W. Peters, and others, v. Pennsylvania Gas Company, August 26, 1919;

H. N. Fleming vs. Home Heating Company, October 28, 1919;

W. Percival Johnson, and others, vs. Philadelphia Suburban Gas & Electric Company, October 28, 1919;

H. N. Smith, and others, vs. Home Electric Light & Steam Heating Company, November 6, 1919;

I. N. Hickman, and others, vs. Randall Gas Company, November 11, 1919;

3006 F. L. Williams, and others, vs. Union Heat & Light Company, November 25, 1919;
Application of Glen Mills Electric Company, February 3, 1920;
Austin Borough Council vs. Potter Gas Company, April 20, 1920;

which reports and orders are certified by the Secretary of the Public Service Commission of Pennsylvania under the seal of said Commission, and are asked to be marked as "West Virginia No. 60."

Mr. Weil: The exhibit offered in evidence is objected to, first, as incompetent, irrelevant and immaterial; second, it is objected to as not being a proper order of the decisions of the Superior Court of Pennsylvania; third, it is objected to as not being an offer of any complete record in any of the cases referred to, but only an emasculated part of said record without having, together with the offer, the whole record showing the issues presented and the questions accordingly decided. It is further objected to as being an attempt to place in evidence what purports to be certain public reports of the Public Service Commission of Pennsylvania, containing the report of the Commission only, without the record upon which the report
3007 was made; and also certain alleged reports of what purpo-ts to be the Superior Court opinion in the Superior Court of Pennsylvania, and not the official reports of said court. All of the offers objected to as evidence, the same standing in relation to this controversy the same as would be the reports of cases decided in the respective states of the Union, or by the respective Service Commissions of the Union which can be referred to as precedents or arguments, and are not proper evidence with which to encumber the record. And lastly, objected to for the reason that not one of said cases or proceedings referred to purport to be the entire proceedings in any of those cases.

Mr. John: The State of West Virginia replies that the opinions of the Superior Court of the Commonwealth of Pennsylvania in the cases of Peoples' Natural Gas Company against the Public Service Commission of the said Commonwealth, and Fayette County Gas Company against the Public Service Commission of said Commonwealth are not offered by the State of West Virginia for the purpose of proving the law or facts therein stated, the same having been attached by the Clerk of the said Public Service Commission of Pennsylvania to and in connection with the findings and orders of
3008 the said Commission in the said cases, apparently for the purpose of showing that the findings of the said Commission were approved and confirmed by the said Superior Court of Pennsylvania; and the State of West Virginia therefore offers, with the consent of the complainants, States of Pennsylvania and Ohio, to withdraw and detach said opinions from the said orders and findings to which the same were appended by the said Clerk, and to which they relate. The State of West Virginia further replies that the said reports and orders of the said Commission, and its findings in the cases embraced in West Virginia Exhibit No. 60 are not offered for the purpose of proving the facts therein narrated or stated, nor in relation to the issues or controversies presented to the said Commis-

sion upon such facts in any of said cases, but that the said opinions, orders and findings of the Public Service Commission of Pennsylvania are only offered for the purpose of whowing the rule and policy of the said Commonwealth of Pennsylvania in respect to the matters and things involved in the said proceedings, as determined and expressed by the Public Service Commission of the State of Pennsylvania in relation to the matters of Public Service to which the said proceedings relate.

Mr. Weil: Counsel for complainants reserve their argu-
3009 ment on the admissibility of the testimony to the proper time and place, to-wit, when it is presented to the court.

Mr. John: The State of West Virginia, having offered the opinion of the Superior Court of Pennsylvania in the cases of Peoples' Natural Gas Company against the Public Service Commission of West Virginia, and Fayette County Gas Company vs. the Public Service Commission of Pennsylvania, because the same were attached to the findings of the Public Service Commission of Pennsylvania in said proceedings, and the complainant states of Pennsylvania and Ohio having objected to the same for the reasons stated in the objection, the State of West Virginia now withdraws from its offer, said opinion of the said Superior Court of Pennsylvania in the said two cases mentioned.

The Commissioner: Let the exhibit be received subject to the statements of counsel.

The Commissioner: Let the transcript show that counsel for the State of West Virginia give notice to the counsel for the Commonwealth of Pennsylvania and the State of Ohio that so far as they are at present advised they are now closing their case in defense for the State of West Virginia, subject however, to the further understanding that if they are advised to introduce further testi-
3010 mony or evidence, they reserve the right so to do until February 28, 1921, giving in this event, at least forty-eight hours' notice to counsel for the complainants.

ORIGINAL, #20 & #21.

3011 THE COMMONWEALTH OF PENNSYLVANIA, Complainant,

VS.

THE STATE OF WEST VIRGINIA.

THE STATE OF OHIO, Complainant,

VS.

THE STATE OF WEST VIRGINIA.

Before Levi Cooke, Esq., Commissioner.

Complainants' Testimony in Rebuttal.

Proceedings of March 22, 23, 24, 1921.

3012 THE COMMONWEALTH OF PENNSYLVANIA, Complainant,

VS.

THE STATE OF WEST VIRGINIA.

THE STATE OF OHIO, Complainant,

VS.

THE STATE OF WEST VIRGINIA.

Before Levi Cooke, Esq., Commissioner.

Complainants' Testimony in Rebuttal.

Proceedings of March 22, 1921.

Appearances:

On behalf of the Commonwealth of Pennsylvania, A. Leo Weil, Esq.

On behalf of the State of Ohio, Freeman T. Eagleson, Esq.

On behalf of the State of West Virginia, Fred O. Blue, Esq., Philip P. Steptoe, Esq., W. S. John, Esq., and George M. Hoffheimer, Esq.

Pursuant to notice the Commissioner and Counsel met at room 905, 545 William Penn Way, Pittsburgh, Pa., for the purpose of taking testimony in rebuttal on the part of the complainants,
3013 and thereupon, pursuant to the order of the Court governing the taking of the testimony, the States of Ohio and Pennsylvania opened their testimony in rebuttal.

EDWIN ROBINSON, called as a witness, having been duly sworn, testified as follows:

Direct examination:

Mr. Weil:

Q. Mr. Robinson, where do you reside?
A. Fairmont, W. Va.
Q. What is your occupation?
A. I am Secretary of the West Virginia Oil and Natural Gas Association.
Q. How long have you been Secretary of that Association?
A. Since it was organized in 1915.
Q. What is the purpose of the organization?
A. The purpose is to gather information of the oil and gas industry of the State and to assist the different companies, different producers of the State, in matters that pertain to their business, giving them statistics that they ask for and need for rate making purposes and other purposes; and also to gather information relative to the amount of taxes paid and royalties and rentals and acreage; in fact, gather what statistics that is vital to the oil and gas industry
3014 in West Virginia.
Q. Have you been engaged as Secretary of this association in that work since you assumed that position, since its organization?
A. Yes, sir.
Q. Have you devoted your whole time and attention to the business and activities of the association?
A. My whole time is taken up with it.
Q. In connection with your work as Secretary of the association, have you compiled the statistical data from time to time for the purpose of being submitted to various committees of the Legislature and to the Legislature of the State of West Virginia, on the various hearings that have taken place during the last six years, on various bills introduced into the Legislature, affecting the oil and gas industry of the State?
A. I have.
Q. Have you appeared from time to time before the Public Service Commission in connection with hearings conducted by them, affecting the oil and gas industry?
A. I have.
Q. What is the membership of your organization?
A. There are about two thousand members.
Q. That is two thousand producers of oil and gas?
A. Oil and gas.

Q. In the State?

3015 A. Yes, sir.

Q. Is it limited to the State of West Virginia,—I mean to those who have oil and gas interests in the State of West Virginia?

A. Practiaclly so; there are a few outside of the State that are members of the association, but very few, and those people are interested in matters in West Virginia.

Q. Are you the active executive officer of the association?

A. I am.

Q. There is no other active officer than yourself?

A. No, sir.

Q. All this work has been under your personal and direct supervision, and much of it done by you personally?

A. Yes.

Q. In the preparation, collection and collation of statistical data, part of which I presume has been done by yourself and part you have secured from others——

A. Yes, sir.

Q. Have you obtained portions of this information from public records, and if so what?

A. I have obtained it from the Board of Public Works and from the Public Service Commission; some of it from the Counties, relative to the taxes, from the assessment books; some by making a personal inquiry from the people interested; in fact, in every way that I possibly could gather information that I could rely on.

3016 Q. Are you familiar with the situation of the local companies supplying the cities of Charleston, Huntington, Morgantown, Fairmont and Clarksburg, in the State of West Virginia?

A. I am.

Q. Do you know, in a general way, the lines through which gas is obtained and supplied by the various companies in those respective localities, as to their location and extent?

A. Yes, I am; I am pretty familiar with all those lines in those towns.

Q. It has been part of your business as secretary of this association, and by reason of your connection with the oil and gas industry prior to that time, to familiarize yourself with those conditions?

A. Yes, I have been interested in rate cases where these matters would come up.

Q. Were you in the oil and gas business prior to the time you were secretary of this association?

A. Yes.

Q. Just give us in a general way what your experience was?

A. In 1902 I was one of the organizers of what was known as the Fairmont Gas and Light Company, and I was the secretary up until 1911; then I was in business for myself from 1911 to 1915, in the oil and gas business; in 1915, this association was organized and I had been connected with that ever since.

Q. You say you were in business for yourself—you mean

3017 as a producer——

A. Yes, sir.
Q. Or operator?
A. Yes, sir, speculator in oil and gas leases, and drilling of wells.
Q. Taking up the town of Fairmont first, have they lines extending into the gas fields?
A. Yes, sir.
Q. To what extent?

Mr. Hoffheimer: This general line of testimony is objected to as not proper matter in rebuttal.
The Commissioner: Note the objection and let the witness answer.

A. The Fairmont Company has two lines from Fairmont to its compressing station on Dunkard Mill Run; they have an eight inch line, that was laid by the Fairmont Gas and Light Company in 1902. The six inch line that extended out that way was built by the Fairmont and Frafton Gas Company and extended from Fairmont to Flaggy Meadow Run. That line was laid by the Fairmont and Grafton Gas Company, the Fairmont Gas and Light Company having purchased that Fairmont plant of the Fairmont and Grafton Gas Company in 1902,—we got that six inch
3018 pipe line. This eight inch line, when we laid it, we laid it as far as James Fork, about eight miles from Fairmont; then extended the four inch line over to about four miles to some wells that we had drilled. The six inch line runs as far as Logansport,—near Logansport, in Mannington District, a distance of about eighteen miles from Fairmont. They also have a line, a six inch line that runs very close to the compressing station, in connection with an eight inch line near the compressing station, to the Carothers Farm at Cross Roads; that is about ten to twelve miles from the compressing station, about twenty miles from town, from Fairmont. They also have an eight inch line that connects with the line going from this line, starting about a mile from the compressing station and goes to Lumberport in Harrison County. That line is about fourteen miles,—that eight inch line from the point where it starts out in the field, gas is carried from that eight inch line about twenty one or twenty two miles. Now from those various lines, these six and eight inch lines that they have out in the field, there are a series of gathering lines to wells; they have wells clear over there; they did have wells away up on Robinson Run. I made a physical examination of their property for Mr. Wheelwright, President of the Fairmont Company in 1914.

Mr Hoffheimer:

Q. You are using the word "They." Who do you mean
3019 by the word "They"?
A. The Fairmont Company.
Q. Which Company?
A. The gas company at Fairmont, which is now the Monongahelia Valley Traction Company,—it afterwards took it over.

There are three main trunk lines of the Fairmont Company that come out of their compressing station. The compressing station is between six and seven miles from town.

Mr. Weil:

Q. Company now supplies this district of Fairmont with gas,—what is the name of the present company?

A. Monongahelia Valley Traction Company; it is the successor to the Fairmont Gas and Light Company.

Q. Give us the situation at Morgantown?

A. At Morgantown, there are two gas companies, the West Virginia Traction and Electric Company and the Randall Gas Company. These companies, both of these companies have lines into Pennsylvania. The West Virginia Traction and Electric Company has its compressing station,—I have got a memorandum here, I will have to look at that for these two companies,—it has a compressing station on Scotts Run, about six miles from Morgantown, and they have two eight inch lines from the compressing station to Morgantown. They have two six inch lines from the compressing station over into Marion County, a distance of about fif-
3020 teen miles to wells that they have over there. They have an eight inch line that goes back beyond Mt. Morris, six or seven miles back of the gas field in there. That line is about fifteen miles long from their compressing station.

Q. Is Mt. Morris in Pennsylvania?

A. Yes, sir, then they have a line that runs from the compressing station,—a six inch line, six to seven miles long, that runs from the compressing station to Point Marion; this line supplies some of the wells on this line; also supplies point Marion with some gas.

Q. Point Marion, W. Va.?

A. Pennsylvania.

Q. What is the actual length of those respective lines?

A. Those lines that come into, come about twenty miles from Morgantown, that is the line coming back of Mt. Morris, it is a distance of about twenty or twenty one miles, and this line that goes back into Marion County; some of those wells are within four or five miles of Fairmont. They have got wells that are drilled on Pharoahs Run; the Randall Gas Company have an eight inch line that comes down near Star City and crosses the river there and goes over into the Dunkard's District in Pennsylvania, in Green County; that is the Randall Company. That line is about seven or eight miles; that is an eight inch line; it is connected up with wells back in that country, gathering lines that run back two
3021 or three miles. They have a compressing station back about five to six miles on this line.

Q. From where?

A. From Morgantown on this eight inch line. Then they have a line, another line that crosses the river not far from the Eureka Oil Company's pipe line plant at Morgantown. That line goes

back into, back to Indian Creek, and up near to McCurdysville, that is sixteen to seventeen miles back in Monongalia County. They have a line that runs off that down on to the Hibbs Farm in Pawpaw District. That line is sixteen to eighteen miles from Morgantown. The other line, the eight inch line, I should judge is about eight or nine miles from Morgantown. They run in different directions; one goes sort of northwest; the other one almost due west from Morgantown.

Q. Have all these lines, gathering lines, extending out from the main line, so as to connect up with wells?

A. They have all gathering lines that connect up with wells in that neighborhood.

Q. Give us the situation at Clarksburg?

Mr. Hoffheimer: Objected to as not proper matter in rebuttal.

The Commissioner: Let the objection be noted and the witness will answer the question.

3022 A. Clarksburg is supplied by the Clarksburg Light and Heat Company; they have a sort of a belt line around Clarksburg, in which they have nine lines running out in different directions to gas fields. They have one line that runs, that goes out to Big Isaac in Doddridge County, about ten or twelve miles from Clarksburg, and from the end of that line there is another line up there, about two miles to some well—twelve to fourteen miles, altogether the length of that line. These lines are connected into this belt line that runs around the city; that line is composed of six and eight inch pipe that is tied in with these other lines, running out from them—a system that they have there. They have a line running down to Quiet Dell, five to six miles, I should judge down there. They have another line to Bridgeport, West Virginia, which is about nine or ten miles across there, and one to Glenn Falls, that is up on the river, that is about four miles. They have another line over to Ten Mile Creek in Harrison County, that is about four miles probably six miles from town, four to six miles from town. They have pipe lines running anywheres to fifteen miles—that is probably the furthest line, the longest line they have, the one going over towards Big Isaac. The other lines run anywhere from four to eight miles.

Mr. Weil:

Q. You say they have nine such lines?

3023 A. About nine of them, yes, sir.

Q. Do all of these lines have their gathering lines too——

A. All have gathering lines connected up with the wells in that neighborhood.

Q. How many compressing stations did you say they had?

A. I think they are building a compressing station at Clarksburg; they may have finished it, but I am not so sure; I know they were talking about it last year, building a compressing station.

Mr. Hoffheimer: I move to strike out this testimony as to the compressing station as manifestly hearsay.

The Commissioner: Let the motion be noted on the record.

Mr. Weil:

Q. What is the situation at Charleston?

A. Charleston is furnished by the United Fuel Gas Company. They have one gas line, eight inch gas line, that runs down from Kanawha City to Charleston, about two and a half to three miles. At Kanawha City, they buy some gas there from probably four or five wells, and also have one well of their own. The main supply for Charleston comes from what is known as the Glendennin
3024 Field; they have three lines from Charleston to their Walgrove compressing station on Elk River which is about fourteen or fifteen miles above Charleston. They have two eight inch and one ten inch discharge lines from that station to Charleston. Then they have three or four—three lines that run back into this Glendennin Field. They vary in length anywhere from five to ten miles. These lines have gathering lines into these wells, are connected up with them. These three lines running back from the compressing station into the Glendennin Field are suction lines; they have their wells connected up; that is where they get the gas for Charleston. Those lines, some of them, are lines that go twenty-five miles into Charleston.

Q. Do all these lines have gathering lines connected up with the various wells located in the respective vicinities?

A. Yes, sir, all connected up with gathering lines.

Q. What is the situation at Huntington?

A. Huntington is supplied by two companies, the Huntington Development and Gas Company and the United Fuel Gas Company. The Huntington Development and Gas Company gets its gas in Lincoln County. They have two twelve inch lines about twenty miles long to their compression station at Hubball on the Guyan River; these various lines run out into the field connecting up with other wells. They have one eight inch line running over to Nye in Putnam County about eight to ten miles long; that goes
3025 about twenty-eight miles before it gets to Huntington. They have branch lines or gathering lines connecting up there. The Huntington Development and Gas Company has got a very large acreage—that Lincoln Land Association property.

Mr. Hoffheimer: I move to strike out the statement that the Huntington Gas and Development Company has a very large acreage as being a statement of an opinion or a conclusion and not a statement of facts, and also as not proper matter of rebuttal.

The Commissioner: Note the motion upon the record.

A. The United Fuel Gas Company that supplies Huntington gets its gas from the Glendennin Field, a great deal of it. That line is about forty-five miles long and that gas goes through the compressor at the compressing station on the Kanawha River there right by Nitro.

Mr. Weil:

Q. Turning to Charleston for a moment, does this Charleston Company supply South Charleston and other points adjacent thereto?

A. It furnished some; the other gas furnished there by the Charleston Dunbar Natural Gas Company. That company furnishes St. Albans and Dunbar and the Government plant, the
3026 Armor and the Projectile plant at South Charleston. That Company gets its gas over in Lincoln and also in Putnam County in that Nye Field, a distance of over twenty miles.

Q. What are the sizes of these lines?

A. They have one ten inch line; they have a compressing station back in there——

Q. About how long is that line?

A. That line is probably about eighteen miles back to their compressor plant.

Q. It has gathering lines, the same as these other lines?

A. Yes, sir.

Q. Does that Charleston Dunbar Gas Company also supply Charleston with gas?

A. No, I think not.

Q. Wheeling, is supplied by the Natural Gas Company of West Virginia?

A. The domestic consumers and a few of the industrial consumers,

Q. That gas is obtained by lines which run into Pennsylvania?

A. Yes, sir.

Q. From time to time, as the executive officer of your association, have you obtained statements from the officials of the Public Service Commission and of the Department of Public Works?

A. I have.

Q. I show you statement marked for identification Pennsylvania Exhibit No. 50, and will ask you by whom was that state-
3027 ment furnished to you?

A. This statement was furnished to me by Mr. Nease.

Q. Who is Mr. Nease?

A. The statistician for the Public Service Commission of West Virginia.

Mr. Weil: I now offer in evidence Pennsylvania Exhibit No. 50.

Mr. Hoffheimer: Objected to on the following grounds: (1) That the paper is not proper evidence in rebuttal. (2) If offered for the purpose of contradicting the witness Nease, no proper foundation for such contradiction has been laid by calling the attention of the witness Nease thereto, when he testified on behalf of the defendant. (3) If offered as a declaration or admission by Nease, the same is not in any manner binding upon the defendant. (4) The paper has not been properly authenticated, nor has any proper foundation been laid for the introduction thereof in evidence. (5) Because the paper purports to be a mere ex parte statement by Nease, out of Court, not under the sanctity of an oath. (6) Because the paper

does not purport to be based upon, nor to set forth the figures
3028 or other information, contained in any public documents of the State of West Virginia. Lastly because the paper is incompetent, irrelevant and immaterial.

The Commission: Let the objection be noted on the record, and the paper received, marked Pennsylvania Exhibit No. 50.

Mr. Weil: This Exhibit is offered more particularly in rebuttal of the testimony of Mr. Nease as to the amount and percentage of the total production of the State of West Virginia, consumed within the State, Mr. Nease when on the stand having produced certain statements of the State's production, particularly for the year 1919, and the State's consumption, in which the figures given by him, differ materially from those contained in Exhibit No. 50. Exhibit No. 50 is here copied into the record.

Natural Gas Statistics—State of West Virginia.

The total production of natural gas, within the State of West Virginia, for the year ended December 31, 1919, was approximately 220 billion cubic feet. Approximately 80 billion cubic feet of the State's production (or the equivalent thereof) and 4 billion cubic feet of imported gas was consumed within West Virginia and approximately 140 billion cubic feet piped to other States.

3029 The production of natural gas within West Virginia for the years 1908 to 1919, both years inclusive, was as follows:

Year.	Cubic feet.
1908	112,181,278,000
1909	166,435,092,000
1910	190,705,869,000
1911	206,890,576,000
1912	239,006,682,000
1913	245,453,985,000
1914	236,489,175,000
1915	244,004,159,000
1916	299,318,907,000
1917	289,898,967,000
1918	280,289,044,000
1919	219,886,837,000

The statement following the quantity of natural gas exported from the State.

Year.	Exported from State (cubic feet).	Percentage of State's total production.
1908	61,644,618,000	55%
1909	96,074,387,000	58%
1910	120,508,811,000	63%
1911	132,867,059,000	64%
1912	151,144,250,000	63%
1913	155,501,876,000	62%
1914	150,161,936,000	63%
1915	154,630,164,000	63%
1916	200,004,740,000	67%
1917	196,679,263,000	68%
1918	174,664,650,000	62%
1919	139,939,062,000	64%

The consumption of gas within the State was as follows:

Year.	Consumption within State (cubic feet).	Percentage of State's total production.
1908	50,536,660,000	45%
1909	70,360,705,000	42%
1910	70,197,058,000	37%
1911	74,023,517,000	36%
1912	87,862,432,000	37%
1913	89,952,109,000	37%
1914	86,327,239,000	37%
1915	89,373,995,000	37%
1916	99,314,167,000	33%
1917	93,220,204,000	32%
1918	105,624,394,000	38%
1919	83,769,937,000	36%

These figures include gas imported from other States. The importations for 1919 were 382,162,000 cubic feet.

Following are statements showing the consumption of natural gas within West Virginia by different classes of consumers.

Domestic Consumers.

Year.	Number consumers.	Gas consumed (cubic feet).	Percentage of of State's total production.
1909	57,208	9,907,023,000	5.6%
1910	71,900	11,173,508,000	5.9%
1911	70,880	11,311,715,000	5.5%
1912	74,985	13,288,159,000	5.6%
1913	82,139	12,961,799,000	5.3%
1914	88,344	14,265,209,000	6.0%
1915	94,098	15,220,207,000	6.3%
1916	109,216	15,237,221,000	5.1%
1917	122,329	16,404,234,000	5.5%
1918	125,341	19,618,873,000	6.9%
1919	130,780	18,753,986,000	8.5%

3031

Industrial Consumers.

Year.	Gas consumed (cubic feet).	Percentage of State's total production.
1909	60,453,682,000	36.4%
1910	59,023,550,000	31.1%
1911	62,711,802,000	30.5%
1912	74,574,273,000	31.4%
1913	76,990,310,000	31.7%
1914	72,062,030,000	31.0%
1915	74,153,788,000	30.7%
1916	83,767,519,000	27.9%
1917	76,816,465,000	26.5%
1918	86,005,521,000	31.1%
1919	65,015,951,000	27.5

Large quantities of natural gas are used within the State in the manufacture of carbon black. The average yearly consumption for the last ten years for this purpose was approximately 23 billion cubic feet per year. During the year 1919, approximately 21 billion cubic feet was used for this purpose. The figures for "Industrial Consumption" include this case.

Prepared by H. E. Nease, Statistician, Public Service Commission of W. Va.

3032 Mr. Weil:

Q. When was this statement, Exhibit No. 50, given to you by Mr. Nease?

Mr. Hoffheimer: Objected to as immaterial.

The Commissioner: Let the objection be noted and let the witness answer.

A. Last August, I think, along the later part of July or in August, sometime in there.

Mr. Weil:

Q. I now show you paper marked for identification Pennsylvania Exhibit No. 51, and I will ask you how you obtained that Exhibit?

A. I obtained this exhibit from Mr. Nease, statistician of the Public Service Company of West Virginia.

Q. Was that delivered to you at your request by Mr. Nease?

A. It was.

Q. And when was it delivered?

A. Either the last of July or along in August.

Q. Of last year?

A. Last year, 1920.

Mr. Weil: I now offer in evidence Pennsylvania Exhibit No. 51 in rebuttal to the testimony of Mr. Nease, in which certain
3033 statements and testimony was given by Mr. Nease, in which the figures and percentages differ from those contained upon Exhibit No. 51.

Mr. Hoffheimer: Objected to upon the same grounds as stated by way of objection to Exhibit No. 50.

The Commissioner: Let the objection be noted on the record and the paper be filed of record, marked Pennsylvania Exhibit No. 51.

Mr. Weil:

Q. I now show you paper marked for identification Pennsylvania Exhibit No. 52 and ask you who furnished you with that exhibit?

A. Mr. Nease, statistician for the Public Service Commission of West Virginia.

Q. When?

A. Either the last of July or sometime in August of 1920.

Q. Were Exhibits Nos. 50, 51 and 52 furnished you at the same time by Mr. Nease, or at different times?

A. No, at the same time.

Q. Were they furnished to you in compliance with requests by you for such information?

A. They were.

3034 Q. Did you ask this information from Mr. Nease to be made from the records of the Public Service Commission?

Mr. Hoffheimer: Objected to as immaterial.

The Commissioner: Let the objection be noted and the witness answer.

A. I did.

Mr. Weil: I now offer in evidence Pennsylvania Exhibit No. 52 in rebuttal to the testimony of Mr. Nease, he having in certain of his statements and in his testimony given facts and figures different from those contained upon this exhibit.

Mr. Hoffheimer: Objected to upon the same grounds as stated in objection to Exhibits No. 50 and 51. The further objection is made in connection with this offer and the previous offers of Exhibits Nos. 50 and 51 insofar as the same assumes that the papers offered are in contradiction of or inconsistent with the testimony of Mr. Nease on behalf of the defendant.

The Commissioner: Let the objection be noted and the paper be filed of record marked Pennsylvania Exhibit No. 52.

3035 Mr. Weil:

Q. I now show you paper marked for identification Pennsylvania Exhibit No. 53, from whom did you obtain this exhibit?

A. I got this from Charles B. Ebert, Acting Chief Inspector——

Q. Of the Public Service Commission?

A. Yes, sir, of West Virginia.

Q. When was that?

A. I got this statement from him early in September of last year; I was in his office when he was compiling these figures; he gave me that statement with one or two others.

Mr. Weil: I now offer in evidence Pennsylvania Exhibit No. 53 in rebuttal to the testimony of the defendant of certain facts and figures purported to have been compiled from the records of the Public Service Commission of West Virginia, said Exhibit showing facts and figures different from and in contradiction of some of those offered by the defendant, as compilations from the records of said Public Service Commission; said exhibit, when and if admitted, to be copied into the record at this place.

Mr. Hoffheimer: The offer is objected to upon the following grounds: (1) Because the paper is not proper evidence in
3036 rebuttal. (2) Because it is not properly authenticated, nor has any proper or sufficient foundation been laid for the introduction thereof in evidence. (3) Because the paper is or purports to be ex-parte declarations of Mr. Ebert, made out of court, not being sworn as a witness, and whose statements or declarations are not binding on the defendant. (4) Because the paper was not furnished in any official capacity, nor by any lawful authority vested in Mr. Ebert or any person holding or purporting to hold the office of Chief Inspector or acting Chief Inspector. (5) Because the paper is a statement of mere conclusion. (6) Because it does not purport to be based upon any official or public records in the custody or control of Mr. Ebert or over which he has any jurisdiction. (7) Because the evidence is incompetent, irrelevant and immaterial. Objection is also made to the statement in offering the paper in evidence to the effect that it contradicts or is inconsistent with the evidence or testimony introduced by or on behalf of the defendant.

3037 Mr. Weil: Pennsylvania Exhibit No. 53 which has been objected to as not being rebuttal testimony and as not being competent evidence is offered and the admission thereof insisted upon by counsel for complainants upon the following ground: The evidence in this case heretofore given shows that a large number of the records of the Public Service Commission and the Board of Public Works were destroyed in the fire which destroyed the Capitol of the State of West Virginia; the evidence of Mr. Nease heretofore taken purports to be in many respects a compilation, taken from those records prior to their destruction, of the total production in the State of West Virginia, of the total consumption in the State of West Virginia, of the amount of production by seven designated companies, of the amount of the consumption both in West Virginia and outside, of these seven designated companies, of certain percentages which the consumption in West Virginia bore to the entire production in the State of West Virginia, the amount of gas exported from the State of West Virginia, the amount of gas imported into
3038 the State of West Virginia, and like testimony. This testimony of Mr. Nease was stated by him to be compilations made by him as statistician of the Public Service Commission, from the records on file in the office of the Public Service Commission and in the office of the Board of Public Works. The testimony purported to be what those records in those public offices would show. This testimony is offered in rebuttal to that testimony because the facts and figures here put down are different, as being a compilation made by an officer of that same Public Service Commission of many of the same facts and figures, presented to the secretary of the National Gas Association of West Virginia as being a compilation from the same Public records, made by a public officer employed in that department, having power and authority by reason of his office to examine and compile such data, and who we will show by the witness on the stand was accustomed to and did from time to time compile such information and data and published the same or present- the same to the public; this being offered as a declaration by the
3039 Public Service Commission of West Virginia through one of its officers to the public of a state of facts and figures differing from and contradictory to those presented in this case by its chief statistician.

It is further offered for the purpose of showing that those facts and figures presented in this case by its Chief Statistician were so juggled and arranged as to present the facts and figures in a light and from which an inference could be drawn contrary to the actual facts and situations as presented by the figures and reports themselves and the data there on file.

It is further offered as a declaration of the Public Service Commission of the State of West Virginia of what is shown by its own books and records and reports, as made by one of its authorized representatives.

It is further offered as the best evidence procurable at this time under the circumstances, where the originals of many of the reports and records from which the facts and figures here compiled were taken, have been destroyed by fire.

3040 Mr. Weil:

Q. Mr. Robinson, this Exhibit No. 53 which I now show you, were copies of that printed and published by the Public Service Commission of West Virginia and circulated to the public?

Mr. Hoffheimer: Objected to because the witness is not shown to have any knowledge on the subject, and second, the printed report itself, if in existence or available, should be produced, and if not produced its absence should be accounted for.

The Commissioner: Let the objection be noted and let the witness answer.

A. I saw some of these figures in a newspaper report in Charleston along in the Fall.

Mr. Weil:

Q. Newspaper report of what?

A. Of the Public Service Commission of West Virginia, of the gas sold and produced in the State.

Mr. Hoffheimer: I move to strike out the answer as not responsive to the question.

3041 The Commissioner: Note the motion on the record.

Mr. Weil:

Q. Was that publication made as a report by the Public Service Commission of West Virginia?

Mr. Hoffheimer: Objected to as calling for the opinion or conclusion of a witness and as manifestly incorrect in that the Public Service Commission of West Virginia or any other department of that State does not make annual or other official reports by newspaper statement.

The Commissioner: Let the objection be noted on the record and the witness answer.

A. It simply stated that it was a report, came out from the Public Service Commission of certain figures and stuff put down there; I thought I had it written; It was just a little short article that I saw in one of the papers. I remember distinctly of cutting it out.

Mr. Hoffheimer:

Q. You saw the article and assumed that the Public Serv-
3042 ice Commission or one of its officers put it out?

A. Yes, sir, when I saw it in the newspaper.

Q. You saw it as a news item appearing in the public press?

A. It came from the meter department I think.

Mr. Blue:

Q. It was merely a statement appearing in the newspaper?
A. Yes, sir.
Q. Not under any official authority of the Public Service Commission?
A. No, sir, no name signed.
Q. Appearing among the general news?
A. Yes, sir.

Mr. Hoffheimer:

Q. It didn't even tell who issued it?
A. I think it set forth from the meter department.

Mr. Blue:

Q. Gathered up by a newspaper reporter among the State news, and that is all it purported to be?
A. I don't know how it was gathered up.
Q. It didn't purport to be anything else?
A. It gave some figures that I noticed; I remember of clipping it out; I thought I had it in my pocket.

3043 The Commissioner: Let Pennsylvania Exhibit No. 53 be received, subject to the objection of counsel.

Mr. Blue:

Q. Where does Mr. Charles B. Ebert live?
A. At Charleston, I suppose, I only saw him there.
Q. Charleston, W. Va.?
A. Yes, sir.
Q. As far as you know he is living there yet?
A. I don't know where he lives.
Q. So far as you know?
A. So far as I know, yes, sir.
Q. You have no knowledge or information that he moved away from Charleston?
A. No.
Q. West Virginia?
A. No.
Q. There is no reason that you know of why you cannot bring him personally to testify as a witness in this case?
A. Why, I, don't know anything about that.
Q. As far as you know there is no reason why the complainants in these two cases, Ohio and Pennsylvania, cannot bring him here to testify as a witness?
A. No, sir.
Q. He is available as a witness?
3044 A. Yes, sir.
Q. And so far as you know could be or can be produced by the complainants in this case if they chose to do so?
A. As far as I know.

Mr. Weil:

Q. Do you know anything about that?
A. I don't know a thing about it.
Q. Why don't you say so?
A. I don't know anything about it; I only know I saw him when I got this statement from him.

Mr. Blue:

Q. Do you know of any efforts that Pennsylvania and Ohio have made to bring him or get him here as a witness?
A. I don't know anything about that.
Q. They didn't make any effort to get you here except to ask you to come?
A. That was all.
Q. You were not subpœnaed here?
A. No.

3045 Pennsylvania Exhibit No. 53 is here copied into the record as follows:

Inspection Department.

Gas Utilities.

Summary of the Natural Gas Production, Importation, Sales, and Exportation for the Fiscal Year Ending June 30, 1920.

1. Sold in cities and towns in W. Va.	51,525,765 Mcf.		
J. " " field and main lines "	35,883,029 "		
K. Total Sales in W. Va.	87,408,794 "	87,408,794 Mcf.	
L. Sold to W. Va. utilities		48,806,800 "	
M. Exported from W. Va.		142,519,562 "	
N. Line loss, etc.		66,357 "	
O. Credit Total		278,801,513 Mcf.	
C. Purchased from W. Va. producers	34,932,777 Mcf. from 1,074-2/12 Wells.*		
E. " " " utilities	49,012,245 "		
F. Imported to W. Va.	5,435,663 "		
G. Error in reporting	326 "		
Total purchases and imports	89,381,011 "	89,381,011 Mcf.	
B. Produced by Utilities from 7,709-5/12 wells		*189,420,502 "	
H. Debit Total		278,801,513 "	

3046 *Monthly average of wells.

In item F, 755,666,000 cubic feet of the 5,435,663,000, was "forced importation" through a main trunk line, from the McKeesport, Pa., gas field, while the latter was in its prime. While the utility exports gas to Pennsylvania regularly and imports none from Pennsylvania, it was compelled to take the quantity named above during one month.

(Sgd.) CHAS. B. EBERT.
CHAS B. EBERT,
Acting Chief Inspector.

3047 Mr. Weil:

Q. Mr. Robinson, as part of your duties as secretary of the West Virginia Gas Association—is that the name?

A. Oil and Gas Association.

Q. Did you make any investigations and compilations of the acreage held by operators in West Virginia?

A. I have.

Q. Did you at our request separate the acreage held by operators in West Virginia other than the Hope Natural Gas Company, Pittsburgh and West Virginia Gas Company, United Fuel Gas Company, Reserve Gas Company, Carnegie Natural Gas Company, Columbia Gas and Electric Company, Manufacturers Light and Heat Company, which have been referred to in this evidence as the seven companies?

A. I have.

Q. Did you separate into developed and undeveloped——

A. Separated into developed and undeveloped acreage.

Mr. Hoffheimer: Objected to as not proper matter of rebuttal and for the further ground that no proper foundation has been laid for this evidence, nor has the witness shown to have any knowledge on the subject.

The Commissioner: Let the objection be noted and the witness answer.

3048 Mr. Weil:

Q. What was the amount of the developed acreage held by other operators in the State of West Virginia other than those seven companies?

Mr. Hoffheimer: Objected to as not proper matter of rebuttal and for the further ground that no proper foundation has been laid for this evidence, nor has the witness shown to have any knowledge on the subject.

The Commissioner: Let the objection be noted and the witness answer.

A. 524,007 acres.

Mr. Weil:

Q. And undeveloped?

A. 1,416,659 acres.

Q. Total?
A. 1,940,666 acres.
Q. Does that purport to include all of the operators in West Virginia other than in those seven companies?

Mr. Hoffheimer: Objected to as not proper matter of rebuttal and for the further ground that no proper foundation has been
3049 laid for this evidence, nor has the witness shown to have knowledge on the subject and as calling for a mere opinion or conclusion.
The Commissioner: Let the objection be noted and the witness answer.

A. No, it does not include all.

Mr. Weil:

Q. Have you made any estimates of the amount held by other operators not included (interrupted)

Mr. Hoffheimer: Objected to as not proper matter of rebuttal and for the further ground that no proper foundation has been laid for this evidence, nor has the witness shown to have any knowledge on the subject and as calling for a mere opinion or conclusion.
The Commissioner: Let the objection be noted and the witness answer.

A. I have.

Mr. Weil:

Q. What is that estimate as to development?

Mr. Hoffheimer: Objected to as not proper matter of rebuttal and for the further ground that no proper foundation has been
3050 laid for this evidence, nor has the witness shown to have any knowledge on the subject and as calling for a mere opinion or conclusion.
The Commissioner: Let the objection be noted and the witness answer.

A. Developed 100,000 acres.

Mr. Weil:

Q. Undeveloped?
A. 300,000 acres; total 400,000 acres.
Q. Taking the amount of the developed and undeveloped and total acreage of the seven companies as testified to by Mr. Nease, being 689,305 acres of developed, 1,866,720 acres of undeveloped and a total of 2,556,025 acres of the seven companies as testified to by Mr. Nease, what would be the percentage held by operators other than the seven companies, without including your estimates of those not ascertained?

Mr. Hoffheimer: Objected to as not proper matter of rebuttal; for the further reason that no proper foundation has been laid therefor, nor is the witness shown to have any competent knowledge on the subject, being a conclusion or opinion of the witness, and lastly as incompetent, irrelevant and immaterial.

3051

The Commissioner: Let the objection be noted and the witness answer.

A. The developed shows 43.2.

Mr. Weil:

Q. Undeveloped?
A. 43.1 and the total 43.2.
Q. What was percentage including your estimate on unascertained acreage?

Mr. Hoffheimer: Objected to as not proper matter of rebuttal; for the further reason that no proper foundation has been laid therefor, nor is the witness shown to have any competent knowledge on the subject, being a conclusion or opinion of the witness, and lastly as incompetent, irrelevant and immaterial.
The Commissioner: Let the objection be noted and the witness answer.

A. Developed 47.5; undeveloped 47.9; total 47.9.

Mr. Weil:

Q. These calculations and percentages are figured as of what time?

3052

A. Up to the present time.
Q. Have you a statement showing the approximate acreage held by certain companies and individuals operating for oil and gas in West Virginia at approximately the present time?
A. I have.
Q. Calling your attention to paper marked for identification Pennsylvania Exhibit No. 54, the last page thereof gives the general summary of which you have just given us the figures?
A. Yes, sir.
Q. From what source of information did you obtain the various figures or estimates that are contained upon this estimate?
A. I obtained some of them from personal inquiry that I made of the operators from time to time and also we collated this statement by a personal investigator that we sent to all the counties and to the different operators in various counties of the state, and compiled this statement, which I believe is approximately correct.

Mr. Hoffheimer: I move to strike out the statement of the witness's belief as to the approximate correctness of the paper as not being responsive to the question.
The Commissioner: Let the motion be noted.

3053 A. It does not take in all of the operators; some of them could not be reached, and I also got information from inquiries that I sent out.

Mr. Weil:

Q. Have you checked up this statement by referring to any public records from time to time?

A. With those companies that make their reports to the Board of Public Works, those are always accessible on file in the Board of Public Works office.

Q. Those public utilities that make their reports to the Public Service Commission, are they checked up with this, or only with the Board of Public Works?

A. Only the Board of Public Works; also have verified it with inquiries to some of these companies that report direct to the Board of Public Works.

Q. Did you have any source of verification from the assessment books of the respective counties in which oil and gas acreage is held?

A. In some cases that was done from time to time when I was looking for the amount of taxes paid. I have been compiling since the first of the year a statement showing the taxes paid by producers which do not report to the Board of Public Works, but report to the county assessors.

Q. That is, those that are not public utilities?

A. Yes, sir, those that are not public utilities, both oil and
3054 gas operators.

Q. What is the fact as to these companies or individuals being members of the West Virginia Oil and Gas Association?

Mr. Hoffheimer: Objected to as entirely immaterial and somewhat irrelevant.

The Commissioner: Let the objection be noted on the record and the witness answer.

A. Some of them are.

Mr. Weil:

Q. Any large proportion or otherwise?

A. Those that are utilities, quite a number of them are members, and quite a number of individual producers, and some of the oil companies——

Q. Are members of your association?

A. Are members of our association.

Q. Has it been a part of your duty as the secretary of the Association from time to time to collate and obtain information of the character set forth in this Pennsylvania Exhibit No. 54?

A. Yes, sir.

Q. Have you been engaged upon that for several years, as secretary of this Association?

A. Yes, sir. Getting information of that character.

3055 Mr. Weil: I now offer in evidence Pennsylvania Exhibit No. 54.

Mr. Hoffheimer: The offer is objected to upon the following grounds. (1) That it is not proper matter in rebuttal. (2) That no proper foundation has been laid, nor is the witness shown to have any competent knowledge of the matter set forth in the exhibit. (3) Because the matter set forth in the exhibit had not been compiled from any official source, nor compiled by the witness in the performance of any official duty or authority. (4) Because the alleged information therein contained is manifestly and confessedly based upon hearsay. (5) Because, insofar as the paper sets forth estimated acreages held by operators, not specified in the first eight pages of the exhibit, the same is the expression of a mere opinion or conclusion of the witness. (6) Because the evidence is incompetent, irrelevant and immaterial.

The Commissioner: Let the objection be noted and the paper filed of record marked Pennsylvania Exhibit No. 54.

3056 Mr. Weil:

Q. Mr. Robinson, when was the company at Fairmont first organized to supply the city of Fairmont with gas, about what date, if you know?

A. The company that now is in there or the original company?

Q. The original company?

A. 1892.

Mr. Hoffheimer:

Q. The first company that supplied natural gas publicly when?

A. In 1892, in Fairmont.

Mr. Weil:

Q. Has some company or successor to that company, in some form or other, been supplying Fairmont ever since?

A. Yes.

Q. How is it about Morgantown, do you know about the date of the first company that supplied Morgantown?

A. E. M. Grant and T. B. Gregory were the first to put gas into Morgantown and Fairmont; they piped that gas in from the Shuman Heights field.

Q. Was that about the same time?

A. Yes, sir, they first went to Morgantown then brought a six inch line from the Shuman Heights field to Fairmont.

3057 Mr. Hoffheimer:

Q. Where was that field?

A. In Monongalia County; I would say it is fifteen to twenty miles from Fairmont.

Mr. Weil:

Q. How far from Morgantown?
A. It is probably twelve to fourteen miles from Morgantown.
Q. What about Clarksburg?
A. I am not so sure about that; the Mountain State Gas Company was the first to supply Clarksburg.
Q. About what year was that?
A. About the same time.
Q. What about Charleston?
A. I don't know about the date that they got gas in there; it was a good many years after that.
Q. Can you give us (interrupted)——
A. I think it was along in the nineteen hundreds, in the early nineteen hundreds they got gas in there. The United States Oil and Gas Company was the first I think in Charleston. That was afterwards taken over by I think the United Fuel.
Q. What about Huntington?
A. The Huntington Development and Gas Company, that company was organized, I think it must have been as late as 1911 or '12, along in there, 1910, '11 or '12. At that time it was a
3058 local company, the Huntington Development and Gas Company. All that stock was owned by local Huntington people, and the United Fuel were in there at that time selling gas. They had quite a gas war there as to prices. This Huntington Development and Gas Company is now a Delaware Corporation; they reorganized when they took in that Lincoln Land Association property.
Q. You say the United Fuel Company,—which company was it you said was in there first?
A. The United Fuel was in Huntington before the Huntington Development and Gas Company.
Q. When was it that it first went in there, so far as you can state, according to your recollection?
A. I have no way of knowing; I wouldn't know that.
Q. Was it prior to 1910?
A. Yes, sir, it was prior to that; Huntington had gas long before that; they had gas in Huntington before 1910, I know that.
Q. Do you know for how many years?
A. No, I do not.
Q. Do you know when Wheeling was first supplied?
A. When I was a boy, that has been a good many years ago; I can tell you about when it was; it was in 1883 or '4, along in there. I will give you my reasons for knowing that. Wheeling got gas before Bellaire. I lived at Bellaire then; we got our gas along about '84 or '85, piped down from Wheeling; the lines
3059 crossed over the river over towards Bridgeport and followed along the railroad most of the way. I remember that as a boy.
Q. All of these towns from the time they commenced to use gas, have been using gas for heat and fuel ever since?

A. Yes, sir.

Q. The companies supplying them have changed in character and ownership and so forth,—take Fairmont for example; it has been using gas and gas was being supplied to Fairmont by one or another company since 1892?

Mr. Hoffheimer: Objected to as very leading in character.

The Commissioner: Let the objection be noted and let the witness answer.

A. Yes, sir.

Mr. Weil:

Q. What about Morgantown, Clarksburg, Charleston and Wheeling, after they began to use gas, has such use been continuous?

A. It has been.

Q. Have the respective companies supplying those towns or cities changed as to ownership or in name or (interrupted)——

Mr. Hoffheimer: Objected to as very leading in char-
3060 acter.

The Commissioner: Let the objection be noted and let the witness answer.

A. Some of the companies have.

A recess was here taken until Wednesday, March 23rd, 1921, at ten o'clock A. M.

3061 Morning Session, Wednesday, March 23, 1921.

And now the hour of ten o'clock A. M. having arrived, hearing resumed, pursuant to adjournment.

Edwin Robinson resumes the stand.

Cross-examination.

Mr. Steptoe:

Q. I believe you live in Fairmont, W. Va.?

A. I do.

Q. Have you lived there for many years?

A. Yes, sir, over twenty.

Q. That is the same city in which Mr. R. T. Cunningham, one of the witnesses for the defendant, lives?

A. Yes, sir, Mr. Cunningham lives in Fairmont.

Q. I understood you to say that the West Virginia Oil and Natural Gas Association of which you are the secretary, was organized in 1915?

A. Yes, sir.

Q. Its membership consists of resident and non-resident members?

A. Some, yes, sir.

Q. All of the seven companies mentioned in these proceedings are members?

A. They are.

3062 Q. Are their affiliated companies members?

A. I don't just get what you mean by affiliated companies.

Q. For example, is the Philadelphia Company (interrupted)——

A. The Pittsburgh and West Virginia is, but not the Philadelphia Company.

Q. Let me get my question straight,—is the Philadelphia Company a member?

A. No.

Q. The Philadelphia Company of West Virginia, is it a member?

A. No, sir.

Q. Is the Equitable Gas Company?

A. No.

Q. Are any of the individual officers of the companies I have just last mentioned members?

A. That I don't know, I don't think they are; I don't think any of the Equitable (interrupted)——

Q. How is your membership made up in the case of a corporation, is it by some representative of that company or by the company itself?

A. Well, it is by the company itself, but most of our memberships are made up of indivi als, individual members, of people, the field men and officers and erators in West Virginia.

Q. For example; how is the membership of the Hope

3063 Natural Gas Company reflected in the organization?

A. Only as a contributing member.

Q. I assume the contributions are in proportion to the size of the company?

A. Yes, sir.

Q. So that the contribution from an individual independent operator would be quite small as compared with one of the seven companies?

A. Yes, sir.

Q. Is the East Ohio Gas Company or the Peoples Gas Company members?

A. No, sir.

Q. Or any of their officers?

A. Not that I know of, I don't think so.

Q. You say the membership contributions are based on the size of the company, be a little more explicit?

A. It is based on the assessed valuation as made by the Board of Public Works.

Q. How about the Independent Producers?

A. The independent producers are only as a membership, $1.00 a year.

Q. Suppose you give us the names of the principal members from the standpoint of contribution?

A. Well, I haven't got that list with me.

Q. It would as a matter of fact include the seven companies which have been mentioned, and several others, quite a number
3064 of other utilities, a number of the other gas utilities?

A. Yes, sir.

Q. Is the South Penn Oil Company a member?

A. It is.

Q. Is the Carter Oil Company?

A. It is.

Q. The Ohio Fuel Supply Company?

A. No.

Q. Who are the officers of your association?

A. H. A. Wallace is President, and Pat McDonough of Parkersburg is Vice President, and I am Secretary-Treasurer.

Q. Is H. A. Wallace you have mentioned the General Manager of the United Fuel Company?

A. He is.

Q. He has testified in this case?

A. He has.

Q. The association's activities are, as I understand them, along the line of gathering data and assisting the members of the association in the matter of rate cases and things of that sort?

A. Yes, sir.

Q. And included among your activities is the matter of legislation; that is to say, all the matters coming before the Legislature of West Virginia relative to oil and gas companies for members of the association, are looked after by your association, are they not?

3065 A. Yes, sir.

Q. Does your association take an active part in all of the rate litigation or other litigation affecting members of the association?

A. Whenever they ask for information we get it for them.

Q. Your association assists them in the way of getting evidence?

A. Getting evidence and getting statistics and things of that kind; what is done in other communities.

Q. You assist them in opposition to the passage of any laws which in the opinion of the association are adverse to the interests of the association?

A. I don't know that they ever asked the opinion of the association, whether the association was opposed to any proposed legislation or not.

Q. That doesn't exactly answer the question, Mr. Robinson, as a matter of fact doesn't the association which you represent take an active part in opposing any legislation which affects the interests of the oil and gas producers (interrupted)——

A. Yes, the association does to the extent with anything that is detrimental in their belief to the oil and gas industry.

Q. As a matter of fact, it is pretty active in that way at every session of the Legislature, and has been since 1915?

A. Very active, because they are forced to be on account of
3066 the number (interrupted)——

Q. Without regard to the reasons, the fact remains that they have been?

A. They are active in opposing any legislation that is detrimental.

Q. And active in their opposition to the passage of this very law that is in controversy here?

A. Yes, sir.

Q. I presume your position as secretary is a paid position?

A. It is.

Q. You are on a salary?

A. Yes, sir.

Q. As a matter of fact you have been present at practically all these hearings and interested in this case from the start, have you not?

A. No, I have not.

Q. Have you not assisted in these cases?

A. The only hearing that I attended at any length was the one in Charleston in December; I spent, I think, one day in Clarksburg, part of a day, and I dropped in here once or twice for a few moments, when testimony was being taken in this office.

Q. I meant to elicit whether or not you had been gathering data or furnishing assistance in this case?

A. No, sir.

Q. To the complainants?

3067 A. No, sir.

Q. You haven't given any assistance or done any work along that line?

A. No, sir.

Q. To assist the plaintiffs?

A. No, sir.

Q. Other than what you have done on this occasion?

A. On this occasion.

Q. You had something to say about the lines of the local companies in Morgantown, Fairmont, Clarksburg, Huntington and Charleston, by which those towns were served, you don't mean to say that all of the gas served by these various utilities in these places was produced by these companies themselves, do you?

A. All the gas that is sold by these companies, you mean is produced by them?

Q. Yes.

A. No, not in all cases.

Q. As a matter of fact you know that the Randall Gas Company and the West Virginia Traction and Electric Company of Morgantown have both bought and have been compelled to buy for years gas to make up their own deficiency?

A. They have purchased, I think, in the last two years, both of them, from the Carnegie Company.

Q. Those purchases were made from the Hope and Carnegie Companies?

3068 A. I don't know so much about the Hope Company, they might have bought some years ago, two or three years ago,

but the Carnegie I understand has furnished them gas for the last two years.

Q. The same is true about Fairmont, the local company there has for some years been buying gas?

A. Been buying some of its gas.

Q. Been buying some from the Hope, been buying some from the Carnegie and have been buying some from the Pittsburgh and West Virginia?

A. Mostly from the Pittsburgh and West Virginia Gas Company and from the Carnegie.

Q. You also know that the local company at Clarksburg is dependent for its supply, very largely, on purchases from the Hope?

A. It buys some of its gas there, some little time; I don't know whether they are dependent on it now or have been this Winter.

Q. Don't you know they have been dependent for some years past?

A. For four or five years past they have bought some; I don't know what the condition is this Winter because there is so little gas sold.

Q. You do know that at Morgantown and Fairmont the local companies made application to the Public Service Commission to compel the larger companies to sell to the local companies?

3069 A. Yes, sir.

Q. Your association assisted there?

A. Yes, sir.

Q. Your assistance there was rendered to the Hope Company, was it and the Carnegie Company?

A. Only to a certain extent.

Q. You were on that side?

A. Yes, I was on that side because I personally believed that way.

Q. The point in those cases was to see whether or not the larger companies could be compelled to sell to the local utilities, and in that you were on the side opposing the sale by the larger companies to the smaller?

Mr. Weil: This line of examination is objected to as not being cross examination of anything that was developed by the complainants in the examination of this witness. No objection, however, is made to any of the questions along this line, with the understanding that wherever it is not cross examination, it is to be treated as testimony offered in behalf of the defendant.

The Commissioner: Note the objection and statement of counsel and let the witness proceed.

3070 A. I was there in opposition to the application of the Commission.

Mr. Steptoe:

Q. That application was to compel (interrupted)

A. The Hope and other companies to furnish gas.

Q. To the local utilities?

A. Some of the local utilities.

Q. So that the activities of the association extend to the opposition

to any proposed legislation affecting the companies adversely, as they think, to opposition to increases of rates, and opposition to compelling any of the larger utilities to sell gas or supply the local utilities?

A. The Morgantown Companies and the Fairmont Companies were not very desirous of having the application of the Commission carried into effect; that was my understanding of it at the time; it was forced upon them by some of their consumers in the two towns.

Q. The consumers took the initiative?

A. Yes, sir.

Q. Isn't it a fact that in those test cases the question was raised whether the Public Service Commission had the power under the then existing law to compel the larger utilities to sell to the smaller ones?

Mr. Weil: This is objected to as not cross examination; as
3071 incompetent, irrelevant and immaterial; as calling upon a layman for an expression of a legal opinion; as calling upon the witness to give a construction to litigation that is pending in the Courts, and as being wholly outside of any examination of the witness in chief upon any questions presented to him during his examination. It is further objected to for the reason that it is an attempt to introduce into the record the opinion of the witness as to what was involved in certain litigation, and the statement in the question of its being a "test" case is not warranted by the facts any more than any other case brought in the Courts as a test case to decide the questions there involved.

Mr. Steptoe:

Q. Neither of those two cases were ever passed upon by the Supreme Court of West Virginia, were they?

A. Not to my knowledge.

Q. (Following question read from the record by stenographer.) "Isn't it a fact that in those test cases the question was raised whether
3072 the Public Service Commission had the power under the then existing law to compel the larger utilities to sell to the smaller ones?

A. I think that is what it was; I am not sure on that.

Q. Going back to the local situation at Fairmont, as I understand you, the Fairmont Gas and Electric Company a good many years ago bought over the holdings at Fairmont of the Fairmont and Grafton Gas Company, is that correct?

A. The Fairmont Gas and Light Company in 1902 purchased the Fairmont holdings, and with that a six inch pipe line that ran from Fairmont to Flaggy Meadow Run in Mannington District, a distance of about fifteen or sixteen miles from Fairmont.

Q. What became of the equipment holdings and pipe lines of the Fairmont and Grafton Gas Company?

A. That was some years after purchased by the Philadelphia Company.

Q. The fact of the matter is that the Fairmont and Grafton Com-

pany continued in business under that name for a number of years, and the Philadelphia Company acquired its capital stock?

A. I don't know how it was done?

Q. At any rate, it is the present Pittsburgh and West Virginia Gas Company?

A. Yes, sir.

Q. Such holdings as were not acquired locally passed along in the name of the older company, Fairmont and Grafton Gas

3073 Company?

A. Locally by Fairmont, is that what you mean?

Q. No, what was not sold by the Fairmont and Grafton Gas Company was held in the name of that Company until it changed its name to the Pittsburgh and West Virginia Gas Company, and that Company now holds it?

A. I can't answer that, I don't know.

Q. You spoke of a belt line around the City of Clarksburg, as a matter of fact isn't that merely a part of a distributing system?

A. Yes, sir, but in the form of a belt line.

Q. The gas pressure is reduced from that belt line and runs to the service lines in the city?

A. Yes, sir.

Q. The line to Big Isaac, which is on the edge of Doddridge County, that was a line of the old Mountain State Gas Company,—the Mountain State Gas Company piped that gas to Clarksburg, the first gas used in Clarksburg, was it not?

A. I suppose that is where it came from; the Mountain State was the first company in Clarksburg.

Q. Don't you know, as a matter of fact, that line was about the only line that the local company, Clarksburg Light and Heat Company, had that extended beyond five miles from Clarksburg until as late as 1916?

3074 A. No, I don't know that.

Q. Do you know of any other line the Clarksburg Light and Heat Company had extending out in the field prior to 1917?

A. No, I don't know.

Q. The line to Quiet Dell and the line to Ten Mile Creek and the others that you mentioned, have all been built since, haven't they?

A. That I am not aware of.

Q. Do you really know much about that situation?

A. Not so very much, I have a general idea of most of the companies in the state as I have mixed up with them in their rate matters; I got a very good idea as to where those lines are.

Q. The purpose of your testimony about these lines was to show that they extended out into the field and had opportunities to get other gas, wasn't it?

A. I don't know what my testimony was for.

Q. You do know this, that the Clarksburg Light and Heat Company had no territory except within a radius of five miles as late as 1917, except the Big Isaac Well and a few acres out there?

A. No, sir.

Q. Do you know that that is not correct?

A. No, I do not know that it is not correct.

Q. If they reported to the Public Service Commission of
3075 West Virginia as of December 31, 1916, that they had only 8,600 acres total territory, developed and undeveloped, you would not be prepared to say that is incorrect?

A. No, sir.

Q. With reference to this Charleston-Dunbar Gas Company, is that Colonel Grosscup's company?

A. Yes, sir.

Q. It furnishes South Charleston and a few other towns?

A. St. Albans and Dunbar, I think it does South Charleston; they have the two Government plants there the armor and the projectile plant.

Q. That company has been buying of the United Fuel for some years to fill the deficiency in its own supply?

A. I don't know that is true for the last year or so; the Charleston-Dunbar Natural Gas Company purchased the gas interests which was held by the Wayland Oil and Gas Company; that was within the last couple of years; that gave them sufficient gas of their own.

Q. Up until that time it had been buying from the United Fuel to your knowledge?

A. Some little at times.

Q. Are you sure of your date when you say that gas was not introduced for general use into Charleston until about 1902?

A. I am not sure of that; it was out of my bailiwick, away
3076 down there.

Q. Still is out of your bailiwick?

A. The time is. I don't recall just when that was put in. My recollection is that gas was developed in the northern end much earlier than in the southern end of the State.

Q. That is true as a general rule?

A. Yes, sir.

Q. But as a matter of fact, to refresh your recollection, the United States Natural Gas Company wasn't the company that first brought gas into Charleston?

A. I don't know.

Q. Wasn't it preceded by the Charleston Gas Company, a local concern, that piped gas in there from over in the Glendennin Field some distance away, and that company was later absorbed by the United States Natural Gas Company?

A. It may be; Colonel Grosscup drilled the first well south of the little Kanawha River, drilled for oil, but got gas, and they drilled two or three wells over there, and if I am not mistaken, he laid a line into Charleston, had a line laid into Charleston, but just what year that was I don't remember.

Q. Colonel Grosscup then and at all times since has lived at Charleston, hasn't he?

A. Yes.

Q. I wish you would refer to your Pennsylvania Exhibit No. 50

and tell me how you obtained that paper, whether by per-
3077 sonal request or by letter?

A. I believe that I got all of these papers here, Exhibits 50, 51 and 52, by personal request when I was in Charleston. I got this information or I wanted this information for the purpose of making up a statisticial address for the president of our association to deliver at the meeting at Charleston the first of last September. He wouldn't bother, you understand, with getting out these figures and so it devolved on me to do it; that is why I asked for those things.

Q. Did you ask Mr. Nease for the specific data you wished?

A. I enumerated certain things that I wanted to show in this address, as we have them published; I don't remember just what I asked for.

Q. He gave you what you desired and what you asked for?

A. I get to him probably two or three times a year for information of various kinds.

Q. You understand this Pennsylvania Exhibit No. 50 to give, with reference to the production, the production of all the public utilities or public service corporations, whichever you choose to call them in West Virginia, do you not?

A. Yes, sir.

Q. You understand it also to include all the production by independent producers?

A. Yes, sir.

Q. Total production?

A. Total production of the State, as I understand it.

3078 Q. Do you mean to imply that the figures given on Pennsylvania Exhibit No. 50 with reference to the total production of natural gas differ or contradict in any way the figures given by Mr. Nease when he testified as a witness for the defendant?

Mr. Weil: Objected to as not cross examination. The witness' legal opinion as to whether it was rebuttal testimony or not was not asked for, nor was he consulted with reference thereto.

Mr. Steptoe: Evidence was offered in rebuttal, with the statement that it contradicted Mr. Nease's testimony. We want to understand where it contradicts.

Mr. Weil: Counsel for complainants will have to be examined on that question and not the witness. If the counsel desire to have a statement on the record made by counsel, in what particulars or some of them counsel believes it contradicts the testimony of Mr. Nease, he can obtain such a statement.

Mr. Steptoe: I don't want any more argument.

The Commissioner: Let the objection be noted on the record and the witness answer.

3079 Q. (Preceding question read.)

A. I don't know.

Mr. Steptoe:

Q. You don't know whether any of it contradicts a thing that he said?

A. No, sir.

Q. With reference to the amounts on Pennsylvania Exhibit No. 50 for export, you understand the figures given for exportation there for the years 1908 to 1919, both inclusive, cover all exportations from the State of West Virginia by all companies, public service corpo-ations?

A. My understanding.

Q. Taking the next heading on that exhibit, purporting to give the consumption within the State of West Virginia, you understand those figures to give for the years 1908 to 1919, inclusive, the total consumption in the State of West Virginia for all purposes, all classes of consumers, and by all users of gas, do you not?

A. I don't understand entirely in this total whether or not the total consumption within the State includes that gas which say the Hope Company sells to the Clarksburg Light and Heat, and that gas that is sold by the Carnegie to the Pittsburgh and West Virginia Gas Company and the companies at Fairmont and Morgan-
3080 town; that is the only thing I am not clear on.

Q. As to that, you don't know?

A. As to that, I don't know; otherwise I think this statement shows what is consumed in the State.

Q. It is apparent after an examination of the exhibit and the two headings following, namely; "Domestic Consumers" and "Industrial Consumers" that the aggregate of those two make up the preceding heading "Consumption within the State?

A. Exactly the same.

Q. The exhibit shows on its face that carbon black is included within that consumption in the State of West Virginia; by carbon black I mean the amount of gas used in the manufacture of carbon black?

A. Yes, sir, estimated amount of gas used for manufacture of carbon black.

Q. You also know, do you not, that the figures there given include both under the heading of "Consumption within the State," and under the heading of "Industrial Consumers," what we ordinarily speak of as free gas, that is gas delivered to lessors, as a part of the consideration for leases?

A. Yes, where a record of it is kept; it is not kept by all the companies.

Q. That amount is quite considerable, isn't it?

3081 A. It would be quite a little gas there.

Q. For example, if the Hope Company returned 1,750 such consumers, you would say it was a considerable amount, probably running in the neighborhood of 2 billion feet, wouldn't it?

A. No, not that much.

Q. Somewhere between one and two billion anywhere?

A. I wouldn't think it was that much.

Q. The heading that I have above referred to "Industrial Consumers" and "Total Consumption within the State," also include gas used for field purposes in the drilling of wells?

A. Yes.

Q. In the cleaning out and pumping of wells, oil and gas?

A. No, it doesn't include all that; gas that is used for pumping wells, a lot of that gas is produced on the lease where the wells are pumped. There is no record made of that gas to the Public Service Commission or anyone else in a great many cases, in the majority of cases, and in the oil fields.

Q. It does include the gas used in cleaning out the wells?

A. Probably so; it may not in some cleaning out of oil wells where they have got a little gas, more than they need, but not enough that they could sell.

Q. You know as a matter of fact that a number of the companies observe the practice of charging up to industrial consumption
3082 all gas utilized by itself or sold to others for drilling wells?

A. Yes, sir.

Q. And report that sale as a sale to industrial consumer?

A. That is my understanding.

Q. So that the industrial consumption and also the number of the industrial consumers include such sales as that?

A. Yes, sir, that is my understanding.

Q. Isn't it also true that the same headings include little amounts of gas that are imported into the State and used here?

A. I don't know whether it does or not; these figures include the gas imported from other states; the importations for 1919 were 3,822,162 M cubic feet.

Q. Do you know how much gas is used in field operations, including not only the items we have been talking about, but operation of pumping stations and so on?

A. No, I don't know just exactly; it is quite a little.

Q. In some of the companies it runs as high as ten per cent of their production?

A. I don't know whether it runs that much or not.

Q. Calling your attention to your Pennsylvania Exhibit No. 51, that is somewhat of a detail of the summaries shown in Pennsylvania Exhibit No. 50?

A. Yes, sir.

Q. The total production within West Virginia that you
3083 have shown on that sheet is for all of the Public Service Corporations of West Virginia?

A. Yes, sir.

Q. It also includes in the grand total for 1919 the carbon black companies?

A. It does.

Q. You have not shown there, however, the quantities purchased by the several companies, have you?

A. I don't think so.

Q. In addition to the production by the public service corpora-

tions, there is also included the production of the independents, is there not?

A. You mean by that the production of the producers that sell their gas to the utilities?

Q. Yes.

A. Yes, sir, that is included.

Q. In other words, you have given the total production for the State in that column?

A. As near as we can come to it.

Q. On that list you have a number of companies that are not public service corporations, or if so, only in an incidental way?

A. Yes, sir.

Q. For example, the South Penn Oil Company and the Ohio Fuel Oil Company do not pretend to be public service corporations?

A. No, sir.

3084 Q. The same is true for the several carbon companies, isn't it?

A. Yes, sir.

Q. Right at the bottom of the list you have a heading of miscellaneous companies which cover what we commonly speak of as the independent producers, in the sense of being those who make no pretense of marketing but sell to the utilities, to the other companies?

A. That is not my understanding of it.

Q. Pennsylvania Exhibit No. 51, in estimating the production, does not purport to include in the first column the importations, does it?

A. No.

Q. Coming to the fourth column, consumption within West Virginia, that is a mere detail of the summary shown for the year 1919 on Pennsylvania Exhibit No. 50, isn't it?

A. Yes.

Q. All the explanations that you give with reference to Pennsylvania Exhibit No. 50 are applicable to Pennsylvania Exhibit No. 51 *to* respect to what gas is included in making up that computation?

A. Yes, sir.

Q. That is to say, it includes gas used in the manufacture of carbon black, free gas furnished to lessors, gas used for field purposes?

A. Yes, I think it does, except as I have said before, I don't know how that gas is taken care of that is sold by the Hope

3085 Company to the Clarksburg and the Carnegie and Pittsburgh and West Virginia Companies, whether that is included in their sales of industrial gas or not? I do not know how that is taken care of.

Q. With respect to that consumption the Hope Company sale to the Clarksburg Light and Heat Company would be used and reported as used by the Clarksburg Light and Heat Company, would it not?

A. It should be.

Q. Don't you know that the figures given for the Clarksburg Light and Heat Company on your Pennsylvania Exhibit No. 51 show the total consumption in West Virginia from that company, that is to

say, the total gas served by the Clarksburg Light and Heat Company in West Virginia?

A. It may.

Q. Don't you observe from your Exhibit No. 51 that its total supply as shown in column 3 is considerably less than its total sales or consumption shown under column 4?

A. Yes, sir.

Q. Doesn't that indicate to you that the Clarksburg Light and Heat Company is there accounting for the gas it purchases in addition to its own production?

A. Yes, sir.

Q. Now, you see, that the company which actually furnishes the gas to the consumer is charged with the gas purchased?

A. In that particular case, yes.

3086 Q. Do you know of any other instance (interrupted)——

A. Yes, it is in the instance of the Randall Gas Company, show a difference there, and in the West Virginia Traction and Electric Company, also, they have reported more sales than their production lines.

Q. That is true generally throughout that exhibit?

A. I think it is.

Q. If you were to credit that same amount of gas which the Hope Company sold to the Clarksburg Light and Heat Company under the consumption of Hope Natural Gas Company, there reported, you simply have the same amount of gas reported twice?

A. Yes, sir.

Q. The total of exports as given on Pennsylvania Exhibit No. 51 is exports for all companies, I believe you said?

A. If I understand it, just one moment here, that is all right.

Q. Do you know whether Mr. Nease in his direct testimony undertook to give the total exports for all companies or persons from West Virginia?

A. I don't know.

Q. The fact is you don't know whether there is any discrepancy or not?

A. No.

Q. You don't know whether Mr. Nease took into consideration in his figures the matter of importations from other states, on his direct testimony?

3087 A. No.

Q. The export column of Pennsylvania Exhibit No. 51 shows the total exports, no matter how the gas was acquired by the exporting company; that is whether by production or by purchase?

A. That is my understanding of that column.

Q. For example, taking the Hope Natural Gas Company on that list, you will observe that its total production is 47,298,392 M cubic feet, and its total supply as shown in column 3, while its consumption within West Virginia is over 12 million cubic feet, and its exports in excess of 4 million cubic feet?

A. Yes, sir.

Q. So that shows that the purchases of gas are taken into consideration in the exports?

A. Yes, sir.

Q. Though not shown on Pennsylvania Exhibit No. 51?

A. Correct.

Q. Pennsylvania Exhibit No. 52 is still further a detail of some of the summaries shown on Pennsylvania Exhibit No. 50, is it not?

A. Yes, sir.

Q. You understand that the number of domestic consumers as shown under the first column of that exhibit includes free gas users, in the case of certain of the companies at any rate?

3088 A. Some of the companies.

Q. They are included in the case of the Hope Natural Gas Company and the Reserve Company?

A. Wherever there is a record made of them, I understand they are included.

Q. Does the heading "Number of Industrial Consumers" on Pennsylvania Exhibit No. 52 include those to whom gas is sold for drilling wells?

A. It so states on this report that it includes drilling wells.

Q. You have in mind the fourth column, industrial sales, giving the amount?

A. I would think that the third column did include the number of drilling well consumers.

Q. Do you know how many of such industrial consumers listed under that third column there are for the drilling of wells?

A. No, I don't.

Q. It might be a very considerable number, might it not?

A. It might be, it depends entirely upon how many wells were drilling and gas used that way and reported that way.

Q. As a matter of fact among the 745 industrial consumers shown on that list for the Hope Natural Gas Company, pretty nearly six hundred of them were for the drilling of wells?

A. I don't know.

Q. You wouldn't be prepared to say that is incorrect?

3089 A. No, sir.

Q. I believe you said that the amount of gas consumed in the drilling or cleaning out of wells also free gas to lessors is included in the amounts shown on the fourth column of industrial sales?

A. Where that cleaning out is done by a company and no report of it made to the Commission, and I don't know whether all of these utilities report their cleaning out, the amount of gas consumed in cleaning out, I don't know about that.

Q. Those facts might be reflected in the monthly reports made by the company to the Public Service Commission?

A. They might be.

Q. If Mr. Nease gathered his statistics from that source, you would not be prepared to say they were incorrect?

A. No, sir, I am not saying they were incorrect, no.

A recess was then taken until one-thirty o'clock P. M.

3090 Afternoon Session, Wednesday, March 23, 1921.

And now the hour of one-thirty P. M. having arrived, hearing resumed, pursuant to adjournment.

EDWIN ROBINSON resumes the stand.

Cross-examination.

Mr. Steptoe:

Q. In your Pennsylvanian Exhibit No. 54, you have undertaken to collate all of the individuals, partnerships, associations or corporations, who produced natural gas in West Virginia, have you not?

A. Yes, sir.

Q. It is complete as far as you are able to make it?

A. If I had more time, I probably could get it more complete; it is a rather difficult thing to get complete.

Q. I find that you have practically two lists bound together in this exhibit, the first arranged alphabetically and tabulated with totals, while the second one, commencing with Columbia Carbon Black Company, is still another estimate or list, what is the explanation?

A. I do not know just why that was put in that way, unless it is that some of these did not report as early as the others.

Q. You may say the second list is a supplemental one stuck in after the first was stabulated, is that the size of it?

3091 A. No, Mr. Crouse made this list up, the way it is; you will have to ask him.

Q. Do I understand you Mr. Crouse made out the whole list?

A. He did the typewriting on it and saw a number of these people.

Q. Is the information on which this list is based derived from Mr. Crouse, or from you?

A. From both.

Q. Who is Mr. Crouse?

A. Mr. Crouse lives at West Union and is an employe of the Hope Natural Gas Company.

Q. Mr. George B. Crouse, is it not?

A. Yes, sir.

Q. The seven companies as we call them in this proceeding are not listed?

A. No.

Q. You have undertaken to list every other producer?

A. That is all.

Q. You have included oil producers as well as gas producers, have you not?

A. Yes, sir.

Q. Isn't it true that in very many instances the producers shown on this list are oil producers without any gas production?

A. I don't know about them; most all of them have more or less gas on their leases, but how much of it, I don't know.

3092 Q. Do you know how many of them use gas off their leases?

A. No.

Q. Do you know whether half of them use gas off their leases?

A. No.

Q. Do you know certainly that all of them have gas production of any kind on the leases or off?

A. No, I only know that the names that are here, firms, individuals, partnerships, have leases in various counties in the State of West Virginia for oil and gas purposes.

Q. Some of them are not even developed?

A. Some of them I suppose are not developed; there would be leaseholds here that would not be developed of course.

Q. Take for example the Heck Oil Company which has holdings over in Roane and Jackson Counties, do you know whether that company has any gas of any kind?

A. No, I don't know; they have some oil production there.

Q. The vast majority of those shown on this list are what we have been terming independent producers, that is those having no pipe lines, no market, but sell their production to the pipe line companies?

A. A great many of them, and some of them here have pipe lines.

Q. Some have pipe lines?

A. Yes, sir and sell to the public.

Q. Don't you know as a matter of fact that the vast majority of those shown on this list that have any gas at all or sell any gas

3093 at all, sell it to the pipe line companies, especially the seven companies we have been talking about?

A. No, I don't know that to be a fact.

Q. Do you know how many of these people sell to the United Fuel Company?

A. No, sir.

Q. Or to the Hope Company?

A. No, sir.

Q. Or any of the seven companies?

A. No, sir.

Q. If their own returns were to show that the seven companies purchased gas from something like three hundred or more of the independent producers, would you undertake to say that was wrong?

A. No, sir, I wouldn't undertake to say that was wrong.

Q. You do know this that the majority of independent producers market to the seven companies, that is a well-known fact?

A. I don't know that it is a well-known fact; quite a number of the independent producers market their gas to the seven companies,—you mean there are quite a number that sell their gas to other pipe line companies besides the seven.

Q. We may admit that there are some that sell to other service, public service corporations, but I am asking you if you don't know, as a matter of fact, that a great majority of the independent producers sell to those seven companies?

3094 A. I suppose they do, because they have a bigger market for it.

Q. That is commonly known?

A. Yes, sir.

Q. Your list includes those who produce natural gas and consume their own production, like the carbon*d* black companies, does it not?

A. The list is of the Carbon*d* Black Companies, and some of them consume their own, some buy and some of them sell their gas; some Carbon Black Companies sell their gas.

Q. Your list includes such companies as the Carter Oil Company, the South Penn Oil Company, Philadelphia Oil Company, Ohio Fuel Oil Company and others that are oil producing companies?

A. Oil producing and gas producing also.

Q. The gas in those companies though is not marketed by them directly, is it?

A. You mean to domestic consumers direct?

Q. Yes, sir.

A. In the case of the South Penn, they market quite a little.

Q. Is the greater part of the South Penn Oil Company gas production sold to the Hope Natural Gas Company or the United Fuel?

A. That I don't know; the South Penn Oil Company sells some gas to the Monongahelia Valley Traction Company back in Mannington District.

3095 Q. They sell to other companies?

A. Yes, sir.

Q. They don't market directly themselves?

A. They sell to other companies.

Q. Taking some of these larger companies, with respect to acreage shown on your list, I will ask you first and further about the South Penn Oil Company, that is commonly known as a Standard Oil Company, isn't it?

A. It was at one time a Standard Oil Company, but since the dissolution of the Standard Oil Company's subsidiaries, it is a different company, as I understand it.

Q. Legally that may be the situation, but the stockholders in control are about the same?

A. I don't know.

Q. It is listed as one of the Standard Oil Subsidiaries on the stock market?

A. It is on the stock market.

Q. In the oil producing end in West Virginia, the Carter Oil Company again is a Standard Oil Company?

A. That I don't know, whether it is considered or not, just those two companies.

Q. Do you or do you not know that the vast majority of acreage of the Hope Natural Gas Company was obtained by transfer from the South Penn Oil Company?

A. No.

Q. Do you know that is not correct?

3096 A. I don't know that that is not correct and I don't know that it is correct.

Q. Do you know where such gas production as is found by the South Penn Oil Company is marketed?

A. I suppose some of it is marketed to the Hope Gas Company and some of it is marketed to other companies that have lines in there in near the wells.

Q. You don't know how much is marketed to companies other than the Hope?

A. No, sir.

Q. Or to companies other than the seven companies?

A. No, sir.

Q. Don't you know as a matter of fact that at least in former years, it was the custom, whenever a gas well was struck by either the Carter Oil Company or the South Penn Oil Company, that that lease was turned over to the Gas Producing Company, the Hope Natural Gas Company?

A. Yes, sir, if I understood it, it was if the Hope Gas Company had lines in that section; if they were in some section where they did not have lines, it would be taken over by some other company.

Q. The oil rights of the leases were owned by the South Penn, and the gas rights by the Hope Natural Gas Company?

A. That is what I understand.

Q. In the southern end of the State, the gas wells were
3097 turned over by those companies to the United Fuel?

A. That I don't know.

Q. With reference to the Fisher Oil Company, do you know where the natural gas production of that company is marketed?

A. No, I do not.

Q. Do you know whether it has any gas production?

A. No.

Q. Do you know whether or not the Fisher Oil Company's holdings are the oil rights under a large block of leases in which the gas rights are owned by the Pittsburgh and West Virginia Gas Company?

A. No, I did not know that.

Q. What do you know about the gas production of the Ohio Fuel Gas Company, as to where it is marketed?

A. I think that is marketed to the United Fuel Gas Company.

Q. The total acreage which you have given on your list to the Ohio Fuel Oil Company is 86,443 acres, is that the entire acreage held in the State of West Virginia by that company for oil and gas purposes, or is it merely such acreage as lies in prospective gas territory?

A. In both prospective oil and prospective gas territories.

Q. Do you know whether that is all the acreage of that company in the State of West Virginia held for oil and gas purposes?

A. All I have any record of.

Q. You think that is its total acreage?

A. I think it is.

3098 Q. You have further on your list the Pure Oil Company with a very large acreage, is the Pure Oil Company the

holder of acreage in the State of West Virginia now, or is it the Ohio Cities Gas Company?

A. I think it is the Pure Oil Company.

Q. Is that the successor to the Ohio Cities Gas Company?

A. So I understand.

Q. Does the Ohio Cities Gas Company or the Pure Oil Company supply any gas or engage in the public service of gas in the State of West Virginia?

A. I think they own what is known as the Mountain State Gas Company down in those counties, adjacent to those counties where they produce oil and gas.

Q. That is a subsidiary company?

A. Yes, sir.

Q. That is the only amount of gas you know of produced by the Pure Oil Company, which is distributed in West Virginia to Domestic or industrial consumers?

A. I suspect they consume a little in their own plant, their refining plant.

Q. It is principally engaged in the production of oil and refining of it?

A. Yes, sir.

Q. Don't you know that the vast majority of the gas produced by it is marketed to the United Fuel?

3099 A. No, I don't know how much of it is marketed to the United Fuel.

Q. You know that part of it is?

A. Part of it I think is; I was under the impression that some of it was marketed to the Owens Bottle Machine Company; I am not so sure of that.

Q. The Pure Oil Company does not pretend to be a public service corporation, simply sells some gas to the Mountain State Gas Company?

A. Yes, sir.

Q. Which in turn serves some consumers?

A. Yes, sir.

Q. Where is this Southern Oil Company's holdings?

A. They have leases in Kanawha, Lewis, Marion, Mingo, Pleasants, Ritchie and Tyleer Counties.

Q. Is it a public service corporation in West Virginia, or do you know?

A. No, I think not.

Q. It is primarily an oil company?

A. Yes, sir.

Q. It has some gas incident to its oil production?

A. Yes, sir.

Q. Where does it market that gas?

A. I don't know.

Q. In general, you don't know, except in a few scattered instances how much gas is produced by any of the companies on this

3100 list, nor where that gas is used, do you?

A. No, sir.

Q. By this list, I mean your Exhibit No. 54?
A. Yes, sir.
Q. The Carter Oil Company is not a public service corporation, is it?
A. No.
Q. It is primarily an oil producing company?
A. I think so.
Q. Its gas is marketed where?
A. I don't know where they market their gas.
Q. Isn't it like the South Penn, when they strike a gas well, the well is turned over to either the Hope or the United Fuel?
A. That I don't know.

Redirect examination.

Mr. Weil:

Q. Mr. Robinson, your testimony in cross-examination on the exhibits in evidence, which were handed to you by Mr. Nease, being exhibits 50, 51 and 52, in which you gave your opinion as to what those exhibits intended to represent, was simply your deduction, was it not, from what is contained on the exhibits, without any other knowledge with reference to the same?

3101 A. That is all.

Q. What Mr. Nease, the statistician, who prepared those exhibits, intended to represent, you have no information, except what is contained upon the exhibits themselves?
A. That is all, what the exhibits show.
Q. Whether or not that is a correct deduction, I suppose Court or counsel are as able to draw their own conclusions as you are?
A. Everybody has a right to draw their own conclusions.
Q. In reference to a question propounded by counsel on exhibit 54, which contains eight pages of close space typewritten lists of producers, you stated that a majority of those in your opinion sold to the seven companies, whereas involved in the question that counsel stated was the fact that those seven companies reported that they purchased from about three hundred other gas producers, did you intend to say that?
A. No, that a majority of these sold to the seven companies,—what I meant was, what I understood his question to be three hundred producers, gas producers, whether the seven companies purchased the majority from those three hundred, what I understood from his question.
Q. You know as a matter of fact, do you not, that quite a number of the producers that are listed upon Exhibit 54 sell to various other parties in the State of West Virginia other than to those seven companies?
A. Yes.

3102 Q. They sell to companies that are supplying many of the cities and towns in the State of West Virginia gas for consumption in those respective cities and towns?

Mr. Hoffheimer: Counsel for the State of West Virginia objects to the form of the question.

The Commissioner: Let the objection be noted and let the witness proceed.

A. Yes.

Mr. Weil:

Q. You have no means, or have you any means of ascertaining how many of them make such sales or how many do not?

A. No, I have no means.

Q. You were asked if the oil rights in the leases of the South Penn were not owned by the South Penn Company, and the gas rights by the Hope Company, do you know that after the decree of dissolution was issued by the Supreme Court of the United States and the South Penn Company was taken out of the Standard Oil Company, that any arrangement to that effect previously made, was not continued, or have you any information on that subject?

Mr. Hoffheimer: Objected to, first as leading; secondly
3103 because the question involves an assumption of alleged matters of fact not shown to be within the knowledge of the witness or otherwise proved, and also not proper redirect examination.

The Commissioner: Let the objection be noted and let the witness proceed.

A. I know that the acreage reported here is of acreage that is owned for oil and gas purposes by the South Penn Oil Company; I know that much.

Q. In which the South Penn Oil Company owns the gas rights as well as the oil rights?

A. Yes, sir.

Q. In what you have reported on this list?

A. Yes, sir.

Q. Does that include, as far as you know, those leases formerly owned by the South Penn Company, in which the gas rights had been previously acquired by the Hope Company?

A. No, I don't know that, but I don't think it does include all of them.

Q. Do you know whether it includes any of them?

A. I think not.

Q. You were asked about the gas production of the Ohio Fuel Company, you said that you think it is marketed to what
3104 company?

A. United Fuel Gas.

Q. Have you any information upon that subject or is that just your opinion?

Mr. Hoffheimer: Counsel for the State of West Virginia objects to the form of question.

The Commissioner: Let the objection be noted and let the witness answer.

A. It is just my opinion that is where they dispose of it.

Recross-examination.

Mr. Steptoe:

Q. Do you know the amount of gas purchased by the seven companies from other producers in the State of West Virginia?

A. No, I do not.

Q. Do you know the amount of gas produced in the State of West Virginia by companies or producers, other than the seven companies, which is marketed to local public service corporations in the State of West Virginia?

A. No, I don't know just the amount.

Q. Do you know the proportionate amount?

A. I only know what that report of Mr. Ebert shows, thirty some billion feet.

3105 Q. Are you referring to Pennsylvania Exhibit No. 54?

A. In this statement of Mr. Ebert's, it says purchased from West Virginia producers 34,932,777 M cubic feet.

Q. That means the total production of those other than the public service corporation?

A. Just what it says there, purchased from these producers.

Q. You don't know how much of that is purchased by the seven companies, or how much by the local companies?

A. No, I do not.

Q. You don't know whether that statement is correct or not, other than what is on that paper?

A. I don't know any more about the correctness of that statement than I do about any of the others; I take them all for what they say.

SAMUEL S. WYER, recalled as a witness, testified as follows:

Direct examination.

Mr. Weil:

Q. Mr. Wyer, you were a witness examined in this case heretofore?

A. I was.

3106 Q. And in your testimony gave your qualifications as a natural gas expert, I believe?

A. I did.

Q. Have you as a natural gas expert and engineer been called upon from time to time to investigate and report on the practicability of making transmission lines of natural gas companies, common carriers, for the purpose of transporting and transmitting to the market gas for other companies,—other parties or companies, than the gas owned by the transmitting company or purchased by it?

A. I have.

Q. Have you prepared reports upon this subject for various scientific and other organizations?

A. I have.

Q. For what bodies and organizations have you prepared such reports?

A. The common carrier question first became active in 1913 and early in 1914; I prepared a professional paper, which was read before, and later published by the American Institute of Mining Engineers. The title of this paper is "Is it feasible to make common carriers of natural gas transmission lines." Shortly after that I made a rather extensive study and submitted a report to the Interstate Commerce Committee of the House of Representatives——

Q. Of the United States?

A. Correct. And in the latter part of 1914, prepared a
3107 report on the feasibility of using the main line of the Ohio Fuel Supply Company as a common carrier of natural gas; another report on the feasibility of using the main lines of the Kansas Natural Gas Company, a common carrier of natural gas; and another report on the feasibility of using the main lines of the Northwestern Ohio Natural Gas Company as a common carrier of natural gas; and on August 20, 1918, in a report that was prepared for the United States Bureau of Standards on the gas service situation at Louisville, Kentucky, pages 35 to 41 of that report discussed the undesirability, from the public service viewpoint, of making natural gas lines common carriers; and in December 1918, in the report published by the Smithsonian Institution, which is known as Bulletin 102 Part 7 of the Smithsonian Institute, Washington, D. C. entitled "Natural Gas, its Production, Service and Conservation", pages 30 to 34 discussed the undesirability of considering the natural gas company transmission lines as common carriers.

Q. In connection with those various reports and investigations, have you made a careful study of the data, conditions and propositions involved in making the transmission lines of natural gas companies common carriers, to carry gas for others than the company owning such lines?

A. I have.

Q. Before asking you to give the result of that examination and investigation, will you differentiate the respective transac-
3108 tions by which gas is placed in the lines of the transmission company by exchanges or sales or other arrangements, from the question of actual transmission as a common carrier?

Mr. Blue: The State of West Virginia objects to this question and excepts to any answer thereto as improper upon rebuttal, and otherwise irrelevant and immaterial.

The Commissioner: Note the objection and let the witness answer.

A. The term "Common Carrier" is used in the sense as representing one who undertakes for hire to transport persons or (interrupted)——

Mr. Blue: Counsel for the State of West Virginia observes that the witness is reading from some document, and desires to know what he is reading from.

A. I am reading from the report that I prepared for the American Institute of Mining Engineers, which starts out with the definition of what we are trying to discuss, which if followed generally would very frequently simplify discussions.

3109 Mr. Blue: The State of West Virginia objects to the reading by the witness from the document to which he refers as improper rebuttal evidence and immaterial and irrelevant; for the further reason that the definition of common carrier is fixed by law and not the opinion of this witness.

The Commissioner: The witness appears to be reading from a statement which he himself has prepared, and the definition with which he prefaces the statement is apparently a part of that. Let the record show that fact, let the objection be noted and the witness proceed.

A. The term "Common Carrier" as used herein means one who undertakes for hire to transport persons or things, or both, from place to place, for all persons indifferently, the term implying indifference as to who shall be served, and an equal readiness to serve all who apply, in the order of their application. The relation referred to in the question is one where after a definite contractual relationship, a certain amount of gas is produced and put into a line, under certain specified conditions, and then a certain specified amount of gas is taken out of a line; the amount taken out may be more or less than the amount put in, depending upon the terms of the contract, but it is a relation which in no sense invites
3110 equality or the same treatment to all, but in the last analysis it is merely a private, contractual relationship between the man who has the gas and puts it into the line and the man or company that they transmit the gas for to some other point.

Mr. Weil:

Q. What is meant by the exchange of gas between gas transmission lines and of those who put the gas into the lines?

A. Very frequently one company will have gas in one part of the field where it does not have a transmission line, and will have need for it at some other point——

Q. Need for the gas?

A. Need for the gas. Very frequently so-called trade arrangements are entered into whereby a pipe line company will take gas from another company in one field, and in lieu thereof transfer certain other gas to this same company at some other point.

Q. What are the engineering, economic operating conditions that would make natural gas transmission lines unadapted as common carriers?

Mr. Blue: The State of West Virginia objects to this question as improper on rebuttal and immaterial and irrelevant.

3111 Mr. Blue:

Q. What are you reading from?
A. The same report.
Q. We will ask you to refer to the page?
A. Seven.
Q. Put in quotations what you are reading from the document and let your answer appear to be a quotation, as we understand it is a quotation and not an original answer on your part?

Mr. Weil: Objected to; there is no objection to referring counsel to the page of the report from which the witness is refreshing his recollection, this being a report made up by the witness, as he has already testified, which he is using to refresh his recollection, and make his answers shorter in consequence. It it not proposed to put it in quotations as if the report itself was being offered in evidence, because it can not be as we understand the rules of evidence. Moreover, it is expected and intended to have the witness elaborate many of these statements as made upon his own former report, from his own knowledge of the facts.

Mr. Blue: The answer of counsel of West Virginia is that
3112 the paper from which the witness reads does not purport to be a report, in the sense that it is a report of figures and facts, but simply purports to be certain ideas that the witness had in February 1914, setting out the theories of this witness, and, therefore, if the witness is to be permitted to answer, it is insisted that he show what he is reading from, if he is using the same language that is contained in a document from which he is reading.

Mr. Weil: The objection already made covers the statement of counsel for complainants.

The Commissioner: Let the witness continue and let the statements of counsel be shown.

A. Gas can go in one direction only. This makes a common carrier service for a pipe line entirely different from a common carrier service or a railroad, where transmission may be carried on in two directions.

Mr. Weil:

Q. In that connection, Mr. Wyer, what are the facts as to transmission lines of substantialy all natural gas companies, as to whether the gas in those lines goes in the same direction at all times,
3113 or is it variable?

Mr. Blue: Objected to as improper in rebuttal, irrelevant and immaterial.

The Commissioner: Let the objection be noted and the witness answer.

A. In most cases, the gas in the transmission line always goes in one geographical direction. There are, of course, a number of cases in West Virginia, and more in West Virginia than in all other

parts of the United States combined, where there is a reversal of gas flow in the same transmission line; the gas may go in one direction part of the day, and in a diametrically opposite direction during another part of the day, but of course, in one direction only at one time, as contrasted with the constant current of trains going in both directions on railroads.

Mr. Weil:

Q. Now proceed——

A. Capacity of transmission lines is rigidly fixed and will not stand any overload——

Q. You are referring here to gas transmission lines?

A. Yes, sir. This has a marked effect in taking care of peak loads, in contradistinction to railroads, which may run extra trains to carry extra traffic.

3114 Q. What do you mean here by peak loads, with reference to a gas transmission line?

A. The term "load" as used herein refers to the volume of gas passing through the line at any given time, and because of peculiarities in the natural gas industry, this must vary through a large range, not only in different hours of the day, that is the same day, but as between different days in the month, and as between different months in the same year.

Q. How much of a variation sometimes occurs,—the maximum for example, would you say?

Mr. Blue: The State of West Virginia objects to this question and to all questions of like kind and character as improper upon rebuttal, and without repeating the objection from time to time, as to all such questions and answers, note upon the record that such objection is to be treated as made to each and every question of like kind and character to the one now propounded to the witness, as improper on rebuttal. And further, in this connection that the question of peak load has been gone into upon the evidence in chief for the plaintiff's case not denied, not contraverted, and for that reason the

3115 State of West Virginia further objects to this line of examination. Without repeating this objection from time to time to like questions, this objection is to be treated as having been made to all such questions.

Mr. Weil: It is understood and agreed that this objection may be considered as applying to any and all questions asked of this witness with reference to this examination, without the repetition thereof, as stated by counsel.

A. No general statement can be made that will fit all cases, but a ratio of eight to one is a very common occurrence as between a minimum and maximum period.

Q. What is the next objection?

A. The third is that natural gas service is instantaneous. There can be no delays in rendering service, as is possible and universally practiced in other transmission agencies, such as railroads and trac-

tion lines. For instance, a railroad can very easily start one hour late in case of congested traffic, but a natural gas service that delivers gas for cooking breakfast one hour after the consumer needed it would not only be valueless to the consumer, but would not be tolerated in any community. This instantaneous feature differentiates natural gas service from all transportation utilities and
3116 common carrier agencies. It may be argued that as between a domestic consumer and an industrial consumer, the domestic consumer could be given preference in cold weather, but sudden changes in temperature would not permit the transfer from the manufacturing to the domestic consumer in time for the protection of the latter.

Q. What is the next objection?

A. Fourth, while it has been urged that gas transmission companies be obliged to build additional lines so as to care for all common carrier gas offered them, it is patent that should this be done, the company would be burdened with a large indebtedness, with no assurance of continuous common carrier business, because of the uncertain life of the wells from which the common carrier gas would be offered. The well-known common law doctrine that "A utility cannot be forced to make an expenditure unless there exists a reasonable expectation that the income from such expenditure will justify the investment made" refutes this contention. Fifth, since the size and length of the transmission line remains stationary, the only variability possible in taking care of a large fluctuating load is to vary the pressure on the line within the strength limits of the pipe. The practical difficulties in taking common carrier gas into transmission lines on account of the great variation in pressure conditions necessary to insure satisfactory service to the consumers at the delivery end of the line, are insurmountable. The pres-
3117 sure on the line that is to receive the gas must obviously be lower than the well pressure, or else artificial means must be provided to increase the pressure of the gas that is to be injected into the transmission line. Sixth, the market for natural gas is not fixed, but varies largely with the season of the year, time of day, temperature of atmosphere, locality and consumer's caprice in using or not using gas on his premises. Seventh, gas consumers will not contract for or agree to use a fixed amount of gas each day, but are entitled by law to take gas as they need it. With industrial consumers the consumption is controlled by business conditions, and plants may be shut down for days at a time, or work overtime, without any definite arrangement with the gas company for such fluctuation in service demands. From this, it is evident from the very nature of the case, that a consumer cannot and will not contract for a definite supply of gas from some shipper, as he cannot tell the shipper how much to forward through the common carrier lines, or when to make deliveries. Eighth, leakage in transit must be taken care of, either in the rate paid for such transmission or by allowance for shrinkage at the delivery ends. Ninth, Storage facilities are not commercially feasible for storing natural gas at the intake end, in transit or at the delivery end of the transmission line. For instance,

an 18 inch pipe line which is one mile long, at 300 pounds
3118 pressure, will store but 200,000 cubic feet of gas as delivered to the consumer at four ounce pressure.

Q. What do you mean by storing facilities not being feasible for storage of natural gas at either the intake or delivery end?

A. In order to handle gas it will be necessary to have storage facilities at either the intake or discharge end of the line, for the simple reason that it would be impossible from an operating viewpoint to synchronize the *im*put of the line with the output to any particular consumer, unless provision is made for storage.

Q. What is the cost of constructing a holder of gas or storage facilities for gas——

A. On a pre-war price basis, a 55,000 barrel oil tank could have been built for about $9,500, and for comparative purposes oil at $3.30 per barrel could be stored at six cents per barrel on a pre-war price basis, and a five million cubic foot gas holder would cost about a quarter of a million dollars, and on the basis of fifty cent gas, one thousand feet of gas would cost in storage about $100.00, which gives you a ratio between cost, that is capital for storage, of the two units, of sixteen hundred to one, that is, the amount of capital necessary to store fifty cent natural gas per thousand would be sixteen hundred times greater than the cost to store three dollar and thirty cent oil, both of course referring to the same basis, as to what
3119 one dollar expended for storage for either gas or oil will accomplish.

Q. In your opinion would it be either practicable or feasible to obtain sufficient storage facilities at a reasonable cost, that would enable the transmission lines to provide such storage, either at the intake or delivery end of their lines?

A. It would not. Tenth, since the gas in transmission will be thoroughly intermixed, if the quality of the common carrier gas received by the common carrier is different from that delivered, a correction will have to be made for this difference.

Q. In that connection, what is the fact as to the quality of the gas varying in different sections, and even in the same section, produced on different leases?

A. The quality would be variable.

Q. To what extent is this variation?

A. No general statement can be made to answer that question; it may vary from a very small fraction of a per cent to as much as twenty-five per cent.

Q. What are the characteristics of variation?

A. That is all covered later——

Q. I would like to have that here?

A. The twelfth reason which is the second one from where we are speaking now, is as follows: Where common carrier gas is delivered to and removed from a common carrier line, it would
3120 be necessary to know: (*a*) specific gravity of gas; (*b*) pressure of gas; (*c*) temperature of gas; (*d*) quality of gas, that is its B. T. U. contents. The first three are necessary in order to determine the volume. The quality of the gas from different places may vary

considerably; thus, there may be a variation of several hundred heat units per cubic foot in the heating value. Occasionally freak wells produce large amounts of sulphur which, if introduced as common carrier gas into the main line, may viciate the supply in many communities. It is a well-known fact that gas as it comes from the wells contains an uncertain quantity of moisture and frequently salt water, which if not properly handled in the field, will get into the main lines, causing damage by lines freezing up and water interfering with the action of regulators and meters.

Q. Do you know as a fact that these freak wells for example, to which you refer, sometimes produce gas with an odor so offensive that makes it impracticable to use that gas for domestic purposes?

A. That is probable in some communities, although a little sulphur in a well would be quite an advantage to the gas industry in the way of preventing leakage.

Q. What effect would it have on the consumer, however, who would not be interested in that question?

A. In view of the fact that one-sixth of the gas that passes through the ultimate consumer's meter is lost on the consumer's prem-
3121 ises, the infection of sulphur with the gas for a few days would be a very grate advantage; after that of course it would become an abominable nuisance.

Q. Wouldn't it be even a nuisance the first few days, aside from the benefits in preventing leakage?

A. It would be a nuisance to the nostrils but an advantage to the pocket book.

Q. Return to your eleventh reason?

A. The volume of gas taken into and discharged from the common carrier line must be accurately determined. Gas being volatile and invisible cannot be transported or identified or measured in bulk as coal or oil or other commodities; and apparatus for measuring gas in large quantities is expensive to install and operate. Furthermore, the errors in gas measurement, due to defects in the apparatus or the calculations based on the apparatus readings, are not apparent as in other commodities, and after the gas has passed the meter, the volume cannot be checked to detect errors in measurements or settle disputes, as is possible with ordinary commodities.

Q. What are the elements that must be considered and taken into account in measuring gas as it goes into and goes out of a line?

A. The answers I read into the record under the twelfth reason.

Q. That is the specific gravity, pressure, temperature, and the quality?

3122 A. Just as read in under the twelfth reason.

Q. All of those enter into the question of measurement, do they?

A. Precisely as stated.

Q. What apparatus is now being used commercially by the companies for such measurements, how is it done?

A. Practically all large volume measurements at the present time is handled through the means of orifice meters, because they are

cheaper to install and easier to operate and more accurate than other types of large volume measuring devices.

Q. What is done as to the method pursued for obtaining the specific gravity, pressure, temperature and the quality?

A. Just as stated in No. 12; the first three must be known in all cases of measurement work.

Q. What apparatus is used for obtaining the specific gravity?

A. Any one of three methods; you can use the effusion method; you can use the specific gravity balance, in which you actually weigh the gas, or you can have a chemist analyze the gas and compute the specific gravity from its chemical composition.

Q. What was the first method you suggested?

A. The effusion method.

Q. What is that?

A. It is merely an old laboratory method, in which the specific gravity is determined by noting the difference in time required for air and gas to pass through a given orifice, and from that in-
3123 formation then compute the specific gravity of natural gas with reference to air as a unit.

Mr. Hoffheimer:

Q. Air at any particular temperature?

A. The same temperature as the gas.

Mr. Weil:

Q. I presume the pressure of the gas is obtained by the usual gauges?

A. Correct.

Q. How is the temperature of the gas ascertained?

A. Thermometer.

Q. The usual thermometer?

A. Yes, sir.

Q. How is the quality of the gas ascertained and determined?

A. Can be determined by any one of two methods; first you can have a chemist analyze the gas and compute the B. T. U. contents from the chemical analysis, or you can determine the B. T. U. contents directly by burning the gas in an apparatus known as calorimeter.

Q. How do you ascertain the amount of moisture that is in the gas?

A. The easiest way is to weigh the gas.

Q. How do you determine whether or not there is oil or water in the gas?

3124 A. If either oil or water is carried by the gas, it is of course shown by the ordinary obvious senses of sight, feeling or touch, and the quantity can be determined by weighing.

Q. I suppose the odor of gas, to which you have just referred is determined by the nose?

A. Surely.

Q. Is it necessary to apply these respective tests at each point where gas is being received from any prospective party who desires to have his gas transported?

A. It would be necessary to have all the information enumerated in response to the twelfth reason previously given.

Q. As to each one?

A. Correct.

Q. Now, continue——

A. A common carrier natural gas line would be limited to handle one commodity; whereas railroads can handle every known commodity. Fourteenth, common carrier natural gas lines can have no extensive interconnection service with other lines; whereas every railroad can handle commodities from every other railroad.

Q. State why common carrier natural gas lines can have no interconnecting service with other lines?

A. For the simple reason you can have interconnection only in those particular local cases, where one line either crosses or is adjacent to another line, and those points are relatively very
3125 few. In the last analysis, as shown in the fifteenth reason, the transportation of natural gas is a local business, naturally centralized in the fields of production, and the deliveries must be made near those fields and not throughout the entire United States, as is possible with commodities on railroads, due to the fact that practically every railroad from Maine to California is interconnected, whereas relatively very few gas lines are so located that they can be interconnected. Sixteen, is merely a summary of reasons 1, 2, 3, 13, 14 and 15, and emphasi-s a common error made in comparing natural gas transmission lines with railroad transportation systems, under the fallacious reasoning that because railroads are common carriers, natural gas lines can also be made common carriers.

Q. What would be the effect to make natural gas company transmission lines common carriers upon the lines, service and the consumer?

A. It would practically demoralize the public utility service features of the natural gas industry, because it would present many features that are entirely impossible and none that are expedient, from a public utility service viewpoint.

Q. What would be the effect upon the consumer?

A. The greatest hardship would be upon the domestic consumer who would have his service so demoralized as to make the
3126 service practically useless to him most of the time. Of course, it is obvious that most of the agitation has come almost exclusively from certain manufacturing interests that are anxious to have the natural gas delivered to them, without any regard as to what may happen to the two and a half million domestic consumers of natural gas in the United States.

Mr. Blue: The State of West Virginia moves to strike out the answer of the witness, particularly that part of it, wherein the witness says in substance, that the agitation is by manufacturing inter-

ests, disregarding the personal comfort of two and a half million people, as improper and irrelevant, and contrary to facts, and otherwise grossly improper.

A. The witness will now finish the answer: A casual study of the common carrier question makes obvious the conclusion that no domestic consumer in any town will go out into the field and procure a certain definite amount of gas to have delivered at his residence, at a certain place, in a certain city, at a particular time; the only consumer that could possibly benefit would be the manufacturer or the small producer in the field who has some gas to sell
3127 and wants to get rid of it as quickly as possible. The small producer could on a common carrier basis compel the gas company to haul his gas to market, but in so doing he would destroy the service to the domestic consumer. The question that must control as to whether main natural gas transmission lines are or are not to be common carriers is whether the two and a half million domestic consumers in the United States, thereby representing over ten million people, shall have their service protected, and shall be given precedence in matters of service, or whether the selfish financial interests of certain manufacturing groups, working jointly with certain groups in the field, shall deliver such public utility lines out from the public utility service to which they are dedicated, and which service they are now rendering, and turn such public utility service lines over to the manufacturing interests for the delivery of common carrier gas on a common carrier basis, which means the destruction of the domestic consumer's service.

Mr. Weil:

Q. How would the domestic consumer be thus practically shut out of the line?

A. Precisely as I have stated in the answer. If the manufacturing plant uses the line capacity, first for handling gas, and secondly for depleting the supplies in the field the domestic consumer
3128 must go without natural gas service.

Q. How would it affect the domestic consumer in purchasing gas from the natural gas companies under these circumstances?

A. If the natural gas company is operated on a common carrier basis, then the public utility features must be subordinate to the common carrier features; you cannot have the two; you have got to elect whether you are going to operate on a common carrier basis or on a public utility basis; the two cannot be mixed.

Mr. Hoffheimer: I move to strike out this dissertion on the feasibility of making transmission lines common carriers and the effect thereof as not proper matter in rebuttal; as not proper matter for opinion or expert evidence; as contrary to the law, particularly statutory law of the State of West Virginia, constituting transmission lines and pipe line companies carriers; and as incompetent, irrelevant and immaterial.

The Commissioner: Note the motion.

Cross examination.

Mr. Blue:

Q. Are you qualified as an expert witness in this case?
3129 A. I am.

Q. Are you qualified as an expert from practicable experience or an expert from theory?

A. In view of the fact that I have in a professional capacity examined about eighty per cent of the natural gas industries of North America in an engineering capacity, I would say it was from practicable experience.

Q. To what extent have your examinations gone, and in what way have you made your examinations?

A. A good many years ago I made a very comprehensive investigation of the natural gas supply situation for the City of Columbus, Ohio, studying field conditions, transmission conditions and the utilization conditions, and at that particular time the question of the common carrier provision came up, because there was a certain demand and a belief that a common carrier provision there would help solve that problem. In 1912, I made a very thorough investigation of the entire pipe line situation of the Kansas Natural Gas Company, starting in with the production situation in Oklahoma, studying the pipe line conditions up to the gates of the various distributing plants. That engineering investigation was made for the United States District Court, for the reason that the plant was in the hands of a receiver under the control of the Court. A short time after that, I made a very thorough study of the production and transmission situa-
3130 tion of all of the property of the Ohio Fuel Supply Company, considering both the production and transmission end in Ohio. The next one was a thorough study of the property of the Northwestern Ohio Natural Gas Company, with a view of considering at that time in particular the common carrier situation as it might affect Toledo, Ohio, for the reason that a local glass company in Toledo, Ohio owned certain acreage in West Virginia and were threatening to make a fight to have that gas hauled to Toledo. I made a careful study of all the production, transmission and distributing property on the Logan Natural Gas and Fuel Company and affiliated companies in Ohio. I made an extensive study of the production, transmission and distributing property of the Warren and Chautauqua Gas Company in Pennsylvania, and the Manufacturers Gas Company in Pennsylvania, which is entirely separate and distinct from the Manufacturers Light and Heat Company. Made a thorough study of the production, transmission, distributing and wholesale town border delivery situations on the entire property of the Potter Gas Company in Pennsylvania and New York. Made an extensive study of the field, transmission and distributing conditions of the Pennsylvania Gas Company in Pennsylvania. Made a very exhaustive study of the field conditions, transmission conditions and the distributing conditions *fo* the United Natural Gas Company in Pennsylvania. Made an exhaustice study of the field

conditions, State line delivery conditions, transmission con-
3131 ditions from the Pennsylvania State line of the Iroquois Natural Gas Company in New York State. I made an extensive investigation of the properties, that is the natural gas properties, of the Eastern Oil Company in West Virginia, and on that particular property a special study was made of the common carrier situation, because of the threat of a certain glass manufacturer in Cumberland, Maryland, at the extreme eastern terminus of the line to go into West Virginia and get certain gas which he claimed he could get, and then compel the Eastern Oil Company to transmit that gas to him on a common carrier basis. Made an extensive investigation of the producing and transmission and local West Virginia distributing conditions of the United Fuel Gas Company in West Virginia, coupled with the transmission problems that arise in that producing company in delivering of gas to the Columbia Gas and Electric Company at Cincinnati, and also to the Ohio Fuel Supply Company, to the Ohio River. Made a thorough investigation of the producing and transmitting equipment of the Hope Natural Gas Company, especially in connection with the problem of transmitting West Virginia gas up to the Ohio River where they have physical connection with the main lines of the East Ohio Gas Company, to a large number of towns in Eastern Ohio, including Cleveland at the extreme northern terminus. Made an extensive investigation of the transmission and
producing and distributing problems of the Peoples Natural
3132 Gas Company in Pennsylvania; a thorough investigation of the wholesale, State line measuring situation and local producing situation of the Fayette County Gas Company in Southern Pennsylvania. Made an extensive investigation of the producing and transmitting problems of the American Natural Gas Company in Pennsylvania. Also a detailed study of the natural gas property of T. W. Phillips Oil and Gas Company. Made an extensive study of the Pennsylvania producing situation coupled with the transmission into Ohio, coupled with the transmission out of Ohio into Wheeling, West Virginia, of the gas production of the Natural Gas Company of West Virginia. Made a thorough investigation of the interstate features, as well as the local Texas features of the production, transmission and town border measuring situation of the Lone Star Gas Company in Texas. Made a thorough investigation of the producing, transmitting, town border measuring and local distributing plant problem of the Oklahoma Natural Gas Company in Oklahoma. Made a thorough study of the producing problems, the interstate transmission problems, local distributing plant problem and town border measuring problem of the Arkansas Natural Gas Company in Arkansas and Louisiana. Have also made an extensive investigation of the pipe line system and the field situation, supplying the City of Hamilton, Ontario, Canada. Made an extensive investigation of the production transmission and distributing prob-
lems of the Municipal Natural Gas Plant at Medicine Hat,
3133 Alberta, Canada. Also a thorough study of the natural gas resources of northern Montana, with a study of the transmission of those resources to the smelter interests in southern Montana.

Also an extensive study and investigation of, first the producing end, secondly, the transmission, and third, the distributing problem of the Canadian Western Natural Gas Company, supplying natural gas to the City of Calgary, Canada. At the present time I have an investigation under way for the Canadian Government of the natural gas situation in western Ontario, Canada. I have acted as consulting engineer for the United States Bureau of Mines on all natural gas conservation problems that have come before the Bureau since the Bureau became active on the public side of the natural gas conservation question, although in this hearing I am testifying solely in a private capacity, and not for or on behalf of the United States Government, although I am a consulting engineer for the United States Bureau of Mines at the present moment. I have also made an investigation of distributing, transmission, field and purchasing situation of the three companies that are interested in supplying Louisville, Kentucky. Have aso made a study of the producing, transmitting and distributing conditions at Lexington and Frankfort, Kentucky.

Q. When were you working for the United States Government?

A. I have acted as consulting engineer for the Bureau of Mines on a number of occasions, starting in a year ago last
3134 January.

Q. January of what year?

A. January, 1920; I have since that time acted as consulting engineer for them on natural gas conservation problems.

Q. Continuously since January, 1920?

A. Well, by continuously, you must bear in mind that I am only giving the Bureau a very small part of my time.

Q. How much of your time?

A. I cannot give it to you in terms of percentage.

Q. Are you working for the United States Government without compensation?

A. No, sir. I get the magnificent sum of $10.00 per diem with an allowance of $4.00 a day for subsistence, whatever that might mean.

Q. Your connection with the Government began in January, 1920?

A. I have done considerable work for the Bureau of Mines in the last six or seven years at various times on individual problems, and during the period of the war I was Chief of Natural Gas Service for the Fuel Administration, and also acted as consulting engineer for the United States Bureau of Standards, in the investigation of the Louisville, Kentucky natural gas problem previously referred to.

Q. Have you appeared at any time as a witness before Public Service Commissions or utility bodies? as an expert witness?

A. A great deal of the time.

Q. During the last three or four years, will you state what
3135 commissions you have appeared before and at whose instance?

A. I have appeared before the Corporation Commission of Oklahoma——

Q. When?

A. I cannot give the exact dates; I have appeared before them several times for private companies.

Q. About when?

A. Within the last two years, and twice for the Bureau of Mines.

Q. Will you be a little more specific, can't you be a little nearer in your dates as to when you appeared before the Oklahoma Commission on behalf of those persons, or firms or corporations other than the Government?

A. I was before the Oklahoma Corporation Commission on St. Patrick's Day last for the United States Bureau of Mines.

Q. That was 1921?

A. Yes, sir. I was before the Oklahoma Commission sometime in February, that is February, 1920, for the Oklahoma Natural Gas Company.

Q. As an expert for the Oklahoma Natural Gas Company?

A. Yes, sir, and paid by them. I have been before the Kansas Public Service Commission a number of times, appeared before the United States District Court of Kansas a large number of times, because I had handled all the engineering work for the Court since the receiver of the Kansas Natural Gas property started in 1912, up until the termination of the receivership, the later part of 1920.

Q. You appeared for the Receiver?

3136 A. For the Receiver.

Q. The Receiver of the Gas Company?

A. The Receiver for the gas company, under the direction of the Court, I have appeared before the Public Service Commission.

Q. Was that the Landon case that you appeared in for the Receiver?

A. That was one of them.

Q. What was the other?

A. There was a great deal of various administrative matters not only before the Court, but before the Commission. I have appeared before the Illinois Corporation Commission, the Indiana Public Service Commission——

Q. Whom were you represent*at*ing when you appeared before the Illinois Commission?

A. Manufacturers Gas Company, owning and operating the Manufacturers Gas plant at Bloomington, Illinois, and before the Indiana Commission for the Manufacturers Gas Company owning and operating the Manufacturers Gas Plant at Terre Haute, Indiana, and the natural gas company owning the natural gas plant and the electric plant at Richmond, Indiana. Before the Ohio Commission I have appeared for the Ohio Fuel Supply Company, Ashtabula Gas Company, Logan Natural Gas and Fuel Company, the Northeastern Ohio Oil and Gas Company, the Northwestern Ohio Natural Gas Company, for a private concern,—I cannot even give you the name, it is a partnership that owned and operated a small gas plant

3137 at Elmore, Ohio. Before the Pennsylvania Public Service Commission, I have appeared for the Pennsylvania Gas Company and for the Philadelphia Company and for the Fayette

Gas Company. Before the New York Second District Commission, for the Iroquois Natural Gas Company in Buffalo; before the Maryland Public Service Commission for the Eastern Oil Company's Natural gas properties in the State of Maryland, and also for the Columbia Gas and Electric Company at the time when that company was contemplating taking natural gas to Baltimore. In West Virginia, for the Weston Gas Company, the Morgantown Gas Company, Clarksburg Light and Heat Company, Hope Natural Gas Company, United Fuel Gas Company, and the Eastern Oil Company's natural gas properties in the eastern part of West Virginia. Before the Arkansas Corporation Commission for the Arkansas Natural Gas Company. Before the Louisiana Service Commission for the Arkansas Natural Gas Company.

Q. What is the Morgantown Gas Company that you appeared for before the Commission in West Virginia?

A. Randall Gas Company.

Q. When did you appear for all these several gas companies before these several public service commissions?

A. I cannot give you the dates.

Q. In a general way?

A. Within the last ten years.

Q. Hasn't it been in a later time than that?

A. Some of the earlier ones were about ten years ago.

3138 Q. Your appearance for the Hope and the United Fuel and the companies in Ohio, and in fact most of the companies that might be interested particularly in this controversy, has been within the last two or three years?

A. That is untrue.

Q. Will you state when it was then?

A. I can furnish for the record a complete statement, giving the exact dates for every one of the cases; I cannot furnish you that from memory.

Q. We will ask you to do that; we will ask you to have it in the morning, in view of the statement made on the record?

A. I am not sure that I can do it in the morning; I will have to telephone to the office——

Q. We will ask you to bring it so as to cross examine you upon it. Did those companies pay you for appearing before the Commissions?

A. Yes, sir, every one of them.

Q. Are you in any way connected with them now or retained by any of them now?

A. I am doing work for a number.

Q. How many are you retained by now?

A. Lone Star Gas Company, Arkansas Natural Gas Company, British Empire Trust Company of London, England, controlling the Calgary plant, the Ohio Fuel Supply Company in Ohio, the Philadelphia Company, Manufacturers Light and Heat Company,

Peoples Natural Gas Company, Hope Natural Gas Company,

3139 Oklahoma Natural Gas Company, the Potter Natural Gas Company, the National Fuel Company which owns the Penn-

sylvania, United and Iroquois Companies, the Taylorstown Natural Gas Company, a small company here in Pennsylvania. That includes all at the present moment.

Q. By the Philadelphia Company, you mean the Pittsburgh and West Virginia Company?

A. I mean the Philadelphia, which owns the Pittsburgh and West Virginia Company, as well as the Monongahelia Gas Company and the Equitable Company; The Philadelphia Company is the holding company.

Q. When did your retainer or employment with the United Fuel Company cease, if it has ceased?

A. When I completed the investigation of the company, about a year and a half ago.

Q. Your investigations of the properties of these companies is followed by your appearing as an expert witness for these companies, isn't it?

A. Not necessarily always.

Q. Your employment by the United Fuel was in regard to rate making?

A. Yes, sir.

Q. You were an expert witness before the Public Service Commission of West Virginia?

A. Yes, sir.

Q. The same is true of the Hope?

3140 A. Yes, sir.

Q. The same is true of the Pittsburgh and West Virginia?

A. There had been a large number of operating problems handled, separate and distinct from the rate end.

Q. The Clarksburg Light and Heat Company had you make one of these investigations and you were called upon for the purpose of your testifying as an expert?

A. Yes, sir.

Q. Before the Commission on rate making?

A. Yes, sir.

Q. The same is true with regard to your appearance before the Ohio Commission——

A. To a great extent, I have done a great deal of engineering work in gas companies in Ohio that had no bearing on the rate making question.

Q. Within the last two or three years I am talking about, your work for these companies, your appearance for them before the Commissions as an expert, has been in connection with rate making?

A. To a large extent rate making and service,—and the two go together. For your information when I went to the Government service I filed with the Secretary of the Interior an itemized statement giving the name of every plant for whom I was doing work at that time.

Q. Where did you first locate on the ground a right of way for a pipe line?

3141 A. I have never located a right-of-way for a pipe line.

Q. Where did you build or have built under your supervision a pipe line for the transportation of gas?

A. There has never been one built under my supervision, for the simple reason that natural gas companies do not employ a consulting engineer until they get into trouble.

Q. I am trying to find out what experience you have had to determine whether you are capable of testifying?

A. I can anticipate that by saying I never handled a shovel of dirt, never handled a monkey wrench, have never done any manual labor of that kind for natural gas companies; I am a profession-engineer, not a ditch digger.

Q. I want to know what pipe line system was ever put in under your supervision and where?

A. None, I have never been in the pipe line business.

Q. Can you mention a pipe line that has been laid out and constructed under your supervision?

A. None.

Q. Can you state where you have located compressor stations, the places where you have located them or had them built under your supervision?

A. Never been in the compressing station business; they don't go into the compressor investigation until after they get into trouble. I made a very exhaustive investigation of the entire compressor situation for the State of Ohio, traveling in that time ap-
3142 proximately 7,000 miles, studying the operating conditions at probably every compressing station in the State, and later I extended that investigation to West Virginia.

Q. I am not asking you about what you know theoretically, I am trying to find out what you know from practical experience as an engineer, and in the usual line of an engineer's experience, in what oil field, or gas field have you laid out a location for a well?

A. I have never laid out any, for the simple reason that engineers are never used for laying out gas wells.

Q. As an engineer you have done nothing whatever in a practical way from the time you left school up to this time?

A. That statement is incorrect.

Q. We will ask you to correct it?

A. There are two kinds of engineers in this world; one who goes on the ground and handles a monkey-wrench and goes out and does manual work, and the other who fulfills the fundamental definition of an engineer as being an architect controlling the great forces of Nature and working out engineering problems for the use and convenience of mankind.

Q. You haven't answered my question, at least no- satisfactory to me; what practical experience have you had as an engineer in laying out and doing the usual things that engineers do; I am not asking you about digging ditches nor using monkey
3143 wrenches; I am asking you about what things you have done as a practical engineer?

A. I have never laid out a compressing station nor a gas main

line; my work has come in after the station has been laid out or after the line has been laid, when I was called in to solve some engineering problem in connection with that line.

Q. Have you operated a gas line?

A. I have not.

Q. Have you ever operated or had you under your direction the operation of a gas compressing station?

A. No, sir.

Q. Now, as a theoretical engineer, you have some theories about how the natural gas business ought to be carried on?

A. As a practical consulting engineer thoroughly familiar with the operating problems in connection with the industry, both theory and practice, either or both, where necessary, I have studied the engineering phases of the natural gas industry very thoroughly within the last ten years; have made a large number of investigations and have worked out a large number of operating conditions which have later been carried into practice in connection with the operation of existing natural gas plants.

Q. Out of this study and investigation of yours, isn't it your judgment that the transportation of natural gas is a local business, naturally centralized in the field of its production?

3144 A. Yes, sir, without any reference whatsoever to State lines.

Q. When you testified a while ago from this paper that you read at the New York meeting in 1914, you read substantially word for word all of the provisions except No. 15, we are going to ask you to read number 15 into the record?

A. Fifteen was read into the record once and I object to reading it in the second time, mostly in the interest of saving space, but I now read it in the second time as follows: "The transportation of natural gas is a local business, naturally centralized in the fields of production, the deliveries being made near those fields, and not throughout the United States, as are other commodities. The limited area producing natural gas, and limited population using natural gas in the United States, are emphasized in Fig. 2" on this paper.

Q. "On this paper" does not appear in the one you gave me?

A. I am putting that in in order to make it definitely understood, because if you put a period after "Fig. 2", without any reference, it will be meaningless to whoever reads it, because there is no Fig. 2 in this record.

Q. Out of your experience it is your opinion that natural gas is a service and not a commodity, isn't it?

A. It is a commodity in which the service is the predominating feature; it is neither a commodity alone nor a service alone; it is a combination of the two, that is a delivery of the commod-

3145 ity under public utility service features.

Q. Let me ask you whether it is not your opinion that the furnishing of natural gas is as a service rather than a delivery of a commodity or product and that the service is a predominating feature of the Natural Gas Company?

A. That expressed it accurately; that is the very reason why the common carrier proposition which has been put up here would demoralize that service, and therefore kill the domestic service to the domestic consumer.

Q. Who has put up this common carrier business here?

A. I haven't put it up; I have merely been answering a lot of questions about it.

Q. Why all this dissertation on this common carrier question that we have been talking about all afternoon?

A. It has been merely responsive to questions that have been asked by you lawyers.

Q. Who started it?

A. Mr. Weil, I presume, is guilty.

Q. In your opinion, considering gas as a commodity is fundamentally wrong in the gas business?

A. Yes, sir, it was true when the report was written; it is true today; I subscribe to everything pertaining to it.

Q. Inasmuch as you recognize the pamphlet which I have in my hands, I will identify it by saying that it purports to be one prepared by you with the heading "Natural Gas: its production, service and conservation." On Page 34 appears a paragraph which I will ask you to read into the record indicating to you the paragraph I have in mind?

3146

A. In response to the question the paragraph reads as follows: "The furnishing of a service, rather than the delivering of a commodity or product, is the dominating feature of the natural gas business. To consider the gas merely as a commodity is fundamentally wrong. When a natural gas utility prospects for, finds, and reduces the fugitive, wandering and uncontrolled natural gas to possession, and then converts this crude natural gas—made up of a mechanical mixture of permanent gases and condensible vapors—into a controlled and usable service delivered to the consumer's fixtures usually many miles from the gas field, the service features pertaining to the method and manner of delivery, and standing ready to serve are of much more importance than the product or commodity. The difference between rendering a service and marketing a commodity is an important one. The commodity may be manufactured at a uniform rate of production and then placed in storage until it can be sold to advantage, while a service must be used at the moment it is offered or it will become forever useless. The load factor data on page 35 emphasized first, the erratic nature of natural gas loads and, secondly, the potential opportunities for rendering service that can never be used." That ends the quotation. It is specially pertinent to read with this one isolated section the entire page 64 which reads as follows——

3147

Q. You were not asked to read that; you can read that later on if you so desire, I grant you that?

A. I am merely calling attention to the fact that you have picked out one isolated paragraph and I am insisting that the other paragraphs that belong with it should at least have attention called to their location, on page 64.

Q. I am conducting this examination, and when I get ready for you to read Page 64, I will ask you?

A. It is my duty as an expert to prevent my own testimony going in in a form that will be grossly misleading to a layman.

Q. Isn't it also your theory and belief that as gas fields decrease that the limited service should be brought in towards the source of supply?

A. Yes, when the time comes that the companies can no longer render adequate service to the domestic consumers, who from the very nature of the case must take precedence at the extreme end, due to domestic demands between the extreme end and the field, except in those cases where a very large part of the total business is at the extreme end of the main transmission line, it will be then necessary and desirable to begin curtailing. For instance, at Cleveland, Ohio, where you have most of your consumers at the extreme end of the line, if you take Cleveland off that line you cannot afford to
3148 operate the four transmission lines for the other smaller towns en route.

Q. Inasmuch as you have stated that natural gas is a service haven't you then explained the next step that a usable service to a limited number is better than a poor service to a larger number?

A. Yes, sir.

Q. You have adopted what you call the New York view of it?

A. Yes, sir.

Q. You have expressed yourself to that effect?

A. Yes, sir, very emphatically; I reaffirm that statement today.

Q. In the same pamphlet to which I called your attention a while ago?

A. Yes, sir.

Q. I am handing you the same pamphlet again and am going to ask you to read into the record beginning at page 50 that part of it that comes under the head of "Extension of service," which I will indicate to you?

Mr. Weil: This question is objected to as well as the preceding questions, in which the witness was asked to read from this pamphlet that has been referred to as not being cross examination of the witness on any subject about which he was examined in chief,
3149 but calling for his opinions upon other matters and other subjects other than the question of common carrier transmission of gas by gas companies upon which he was examined in chief; these questions referring in no way shape or form to that subject directly or indirectly, approximately or remotely. There is no objection to the witness answering these questions and reading into the record these excerpts, but counsel for complainants give notice that they propose to cross examine the witness upon this subject, and to treat him as the witness for the defendant, and will insist to the Court when the evidence is presented that the defendant is bound by the testimony of this witness, on these subjects as if he had been called and examined as their witness, there being no opportunity here at this time under the circumstances under which this evidence is taken to have this evidence ruled out as not being cross examina-

tion, but the same under the orders of the Supreme Court are necessarily taken and will appear as a part of the record. Notice is given to the attorney for the defendant that complainants will insist to the Court when this record comes before it that this testimony is
3150 testimony in chief on part of the defendants and that they are bound thereby, and the complainants propose to cross examine the witness upon the same, after this examination is terminated.

The Commissioner: Note the objection and let the witness proceed.

A. The paragraph asked for is from Smithsonian Institution Bulletin 102, Part 7, beginning in the middle of page 50 and extending over to the top of page 51, and when this paragraph was written, it was merely a part of the Bulletin as a whole, and the text on page 64 of this Bulletin must be read with the text on pages 50 and 51,—the text asked for reading as follows: "Extension of Service" "In considering the question of the desirability of making new extensions after a natural gas supply has become depleted, so as to make satisfactory service for all impossible, two distinct viewpoints have been developed, namely: The Indiana Supreme Court in 1901 held that: A natural gas company * * * can not refuse to permit connection with its mains by unsupplied citizens because the gas pressure has fallen so low that existing customers can not be adequately supplied, and that the court should compel the company to permit participation in the supply of gas furnished by it, although it can not furnish enough to satisfy the needs of its existing
3151 customers. (State of Indiana ex rel. Wood versus Consumers Gas Trust Co., 55 Lawyers' Reports, 245). The New York Public Service Commission, Second District, in 1915, held that: Consideration must be given to a safe and adequate service on the part of the company, within its means and facilities, and if service of this character is being given to a comparatively few customers in a certain locality, with the eliminated amount of gas available for such purpose, it is manifestly the duty of this commission to permit the continuance of such service rather than order the company to turn its gas into a larger field where a safe and adequate service could be given. (New York Public Service Commission, Second District, North Tonawanda case No. 4478, Feb. 25, 1915.) The Indiana viewpoint is merely a blind following the obsolete precedent. Furthermore, it is based on the erroneous theory that it is a matter of no consequence whether adequate service can be given to any customers, so long as all of the customers stand on an exact equality, and fails to recognize that there is a clear distinction between equity and equality, and that the two are not synonymous. The New York viewpoint is in accordance with the spirit and letter of up-to-date public utility regulation and recognizes the inherent characteristics and natural limitations of the natural gas industry, and that usable service to *s* limited number is better than poor or no service to a large number. This New York viewpoint is the just and equitable

one to apply to all new service extension problems, as well as
3152 to the inevitable problem that will arise in the near future, of limiting or discontinuing the service entirely in certain localities, because the available supply as furnished by nature will not permit the continuance of a usuable service to all."

Mr. Blue:

Q. Now, coming down to the practicable proposition of this question of carrying gas, do you not know that the Pittsburgh and West Virginia Company is carrying gas for the West Virginia Central Gas Company and delivering it to the West Virginia Central Gas Company under an arrangement between those two companies?

A. It is carrying gas on a transfer basis, but not on a common carrier basis.

Q. It is transporting it or transmitting it or whatever the technical word may be?

A. No, it is merely a cooperative agreement whereby they buy certain gas at once place and sell other gas at another place; they do not transmit and deliver the same gas that goes in.

Q. Have you seen the contract or do you know the character of the contract between those two companies?

A. I cannot tell you the exact terms of the contract now; I saw it originally before it was signed.

3153 Q. Does not the contract instead of reading just the way you state it, say in substance they shall redeliver to the West Virginia Central Gas Company one half of this gas, or whatever proportion they agreed among themselves should be redelivered to it?

Mr. Weil: Objected to as not cross examination, incompetent, irrelevant and immaterial and an attempt to prove by the witness the contents of some written instrument without the same being introduced.

Mr. Blue: Counsel for West Virginia concede that the contract would be the best evidence. We are not asking the question for that purpose. The question is being asked of this witness as an expert who has testified upon his theories, to ascertain whether or not certain things are not being done, practically in the face of these theories.

The Commissioner: Let the objection be noted and the witness proceed.

A. It is neither a matter of theory or contractual relation. If such a contract provides that such a thing shall be done, it is not done, for the simple reason you cannot contract to do that
3154 which is impossible; no contractual relation can abrogate engineering law.

Mr. Blue:

Q. Do you mean to say that one producer cannot deliver gas into a pipe line and have the same quantity of like gas delivered to him at the other end of the pipe line?

A. Not the same gas; you can similar gas; you use the expression deliver the same gas.

Q. As an engineer, is it not perfectly feasible if a quantity of gas is put into a pipe line that a like quantity will be delivered by that pipe line at the other end?

A. Yes, sir, but not the same gas.

Q. What is the difference between that and an elevator delivering a certain quantity of wheat, it does not deliver the same wheat but delivers the same quantity of wheat, where is the difference?

A. You have insisted all along that one producer would put in a certain amount of gas and have that same gas taken out at the other end or taken out under common carrier conditions. This contract in no way, shape or form provides for common carrier service. Its provisions are merely for transfer of gas between the two companies. They do not hold themselves out to render service to the public.

Q. What is the difference whether they do or not, if the thing can be done?

A. It is the difference between being a common carrier and not being. You can deliver a quantity of gas but cannot deliver
3155 it under common carrier conditions.

Q. What is the difference if you have a million feet of gas in a pipe line which you deliver at the other end of it, or put in one million feet to take the place of it, what is the difference (interrupted)——

A. That is merely a private relationship.

Q. Couldn't you carry the private relationship to the extent that you make it a common carrier relationship?

A. Certainly, but the minute you do that, your common carrier relationship would kill the public utility end of the business.

Q. If by contractual relation gas is transported between parties, why cannot it be done in (interrupted).

A. It is merely a transfer of gas; it isn't the transporting of the same gas; it hasn't any of the elements of common carrier service.

Q. What is the difference between that and the transfer of oil in a pipe line?

A. Because oil is not a public utility.

Q. The pipe lines used to carry oil are common carriers?

A. By Congressional action.

Q. Now then, will you tell me why and wherein if you put a barrel of oil in a pipe line you couldn't do that same thing as to gas?

A. You would not still render public utility service. The
3156 converting of natural gas transmission lines into common carriers presents many features that are impossible, and none that are feasible or expedient. Could not require a company operating a pipe line to pick up gas anywhere along its line and take it to a market except under the legal, engineering and economic conditions herein defined. Could not require the pipe line company to find a market for the gas. Would so disorganize the existing

business as to make it impossible to render satisfactory continuous service to either domestic or industrial consumers. Would make the consumers, especially the domestic, subordinate to occasional producers; that is, to men who have no intention of following the business of hunting for gas for future service, but would be interested only in finding a good market, at the expense of others for such gas as might be found as a result of an occasional venture. In all cases, where tried will impair and usually destroy the cooking, heating and lighting service of the domestic consumer. Would greatly increase the amount of gas used for manufacturing purposes, thus hastening the day when natural gas will be merely the memory of a wasted and unappreciated resource. Could be based only on distinctly local and selfish interests, and would have to ignore entirely the broad public insterest in an effective and continuous service and a future generation's equity in a conserved fuel supply.

3157 Q. Don't you know also that these oil pipe lines deliver oil from these lines?

A. Yes, sir, they do. Storage facilities for natural gas are not feasible, either at the intake, in transit or at the delivery end.

Q. You have the best storage in the world for your natural gas at the point of intake in the well itself?

A. You could have storage in both places.

Q. Take up one at a time; the well itself is storage?

A. Yes, sir.

Q. The gas is there for you to take?

A. It is there whether you take it or not.

Q. Gas can be delivered from the wells adjacent?

A. Oil can be piped into the line; gas runs into the line; you could pump oil right into the line; gas is a different proposition; gas goes through the line from increased expansive force from the higher pressure, provided the rock pressure is high enough. You cannot transmit natural gas in the atmosphere.

Q. Don't you know that gas flows only in one direction?

A. At one given time, as far as putting it into a pipe (interrupted)——

Q. Then gas and oil are the same in that respect?

A. Yes, sir; I did not limit my exception to one feature.

A recess was here taken until Thursday, March 24th, 1921, at ten o'clock A. M.

3158 Morning Session, Thursday, March 24th, 1921.

And now the hour of ten o'clock A. M. having arrived, hearing resumed pursuant to adjournment.

SAMUEL S. WYER, resumes the stand.

Cross-examination.

Mr. Blue:

Q. On yesterday, you were asked to file a statement, showing your appearance before the various Commissions in behalf of various natural gas companies in the several states, and the dates thereof, for the period mentioned in the question, do you have that statement this morning?

A. I do not have it here this morning; I cannot give that information from memory for various obvious reasons, it being impossible to fix the dates several years back, but have all the necessary information in my files and could, after returning to the office, build up such a statement giving the exact information in chronological order. I will not arrive at my office until the latter part of next week.

Q. Your office is at Columbus, Ohio?

A. Yes, sir. I will be very glad to furnish such a statement and mail it to you.

Q. Inasmuch as that is some days remote and our gen-
3159 eral understanding is that these depositions will be completed here this week, I will not ask you to go to that trouble or to hold the depositions open until you can furnish that information. You are therefore excused from that in order to avoid any delay?

Redirect examination.

Mr. Weil:

Q. Mr. Wyer, the excerpts from a certain publication which you were asked by counsel in cross-examination to place in the record and which you referred to as being on certain pages of a certain book, were taken, were they not from Bulletin 102, Part 7, of the Smithsonian Institution, United States National Museum entitled: "The Mineral Industries of the United States; Natural Gas; its production, service and conservation" by Samuel S. Wyer of Columbus, Ohio, published by the Washington Government Printing Office, 1918?

A. Correct.

Q. Do those excerpts taken out of their context without the explanations given sometimes previously and sometimes following, correctly set forth your views on those respective subjects about which you were interrogated?

A. They do not.

Q. There was called to your attention one portion of that book particularly enumerated on Page 64 but as I understand you
3160 to say there are other portions of this pamphlet which have a direct bearing on the subject, other than the excerpts that you were requested to place on the record?

A. That would be true; the book as a whole should be taken. That is especially true with regard to the conservation features of gas. If the State of West Virginia were to spend as much money and as much energy in conserving natural gas as it is in this Interstate Commerce controversy, they could have satisfactory gas service for many years.

Mr. Blue: The State of West Virginia moves to strike out this learned observation of the witness as wholly uncalled for, irrelevant, immaterial, voluntary and argumentative.

The Commissioner: Note the motion.

Mr. Weil:

Q. I show you paper marked for identification Pennsylvania Exhibit 55 and ask you if that is the pamphlet from which you read the excerpts to which you have just referred in your testimony?

A. It is.

Mr. Weil: I now offer in evidence Pennsylvania Exhibit No. 55 in connection with the cross-examination of this witness.

3161 Mr. Blue: The State of West Virginia objects to Pennsylvania Exhibit No. 55 as irrelevant, immaterial and improper and as uselessly incumbering the records upon the material issues involved in these causes. The State of West Virginia calls attention to this: That the cross-examination of the witness yesterday in respect to certain parts of the book or pamphlet related to certain theories of the witness respecting the question of the transmission of gas and of the service, the matters whereof the witness has spoken about on his direct examination, and the purpose of the cross-examination and introduction of such parts of the pamphlet or book was in respect to the matters upon which the witness had testified upon his direct examination, namely in respect to the transmission of gas by gas lines and the service to consumers by gas companies. And as further giving and throwing light upon the state of mind and the theories of the witness, as reflected in such parts of the book or pamphlet, the State of West Virginia had the witness read into the record such parts thereof when on the stand yesterday.

3162 The Commissioner: Let the statements of counsel be noted and let the Exhibit be received.

Mr. Weil: In reply to the statement made by counsel, the sections of the pamphlet which were read into the record on cross-examination, were not subjects upon which any examination had been made of this witness in the examination in chief, but were upon entirely different subjects, and attention was called thereto at the time. The witness protested during his examination that these excerpts did not correctly portray his opinions as they were

qualified by what had preceded and what had followed in this bulletin, and offered to read in to the record those qualifications, which was objected to by counsel for the defendant. This is the only opportunity therefore which in fairness to the witness his opinion can be correctly presented to the Court, and therefore not withstanding the burden upon the record, we have offered this Exhibit No. 55.

Mr. Blue: Counsel for West Virginia calls attention to
3163 counsel for the plaintiffs that when the witness was inquired of and asked to read into the record certain parts of the pamphlet or book, it was stated to the witness that such qualifying parts as he wished to read in, he might do so, after the examination had been finished by counsel, and no objection is made to the witness reading into the record such parts as he referred to yesterday, wherein he claimed that such parts qualified his statements or tended to do so, further than the fact that the same would be immaterial and irrelevant.

Mr. Blue: The State of West Virginia without waiving any right of objection to the book or pamphlet introduced in its entirety, on recross examination will ask the following questions of the witness:

Recross-examination.

Mr. Blue:

Q. On yesterday you read into the record pages 7, 8 and 9 of a little pamphlet containing an address that you made at a New York meeting in February, 1914, giving your sixteen reasons why a natural gas pipe line cannot be a common carrier, did you
3164 not?

A. I did.

Q. The same sixteen reasons appear in the printed pamphlet which you have filed as Pennsylvania Exhibit No. 55, do they not?

A. The discussion in Pennsylvania Exhibit No. 55 which begins on page 30 and extends over to the top of page 34 is merely an abridgement of the common carrier paper referred to yesterday.

Q. This Pennsylvania Exhibit No. 55 was written by you?

A. Yes, sir.

Q. It is a collation of a number of papers, expressing your theories, isn't it?

A. Yes, sir, and viewpoints.

Q. It is a collation of a number of papers on your theories and viewpoints?

A. No, it is not a collation of a number of papers; it is a complete discussion in which we have used a lot of material previously prepared on certain particular individual subjects.

Q. Who do you mean by "We"?

A. I am referring to the fact that the Smithsonian Institution had arranged for this investigation. This was of course prepared for them; was put out after a thorough discussion with the various officials and after they had written a foreword for the en-
3165 tire paper, in order to tie it into the mineral conservation program of the institution.

Q. I do not know yet who "We" means; I don't know who you mean by we?

A. I have answered once before the term "We" as used herein refers to myself and those officials of the Smithsonian Institution that discussed first the manuscript form of the circular, and then secondly furnished a foreword for tying this discussion of natural gas into the general conservation program of the Smithsonian Institution.

Q. In other words, this Exhibit No. 55 is a collation of the theories and viewpoints of you and some other theorists respecting natural gas and the handling of it?

A. No, I think the last paragraph of the foreword expresses that more accurately: "This particular discussion sets forth the technical issues as viewed by a practical engineer who alone is responsible for it in a concise, readable presentation, which makes it a distinct contribution toward clarifying the situation."

Q. Who is the engineer referred to there?

A. Myself.

Q. This Exhibit No. 55 is a collation of different papers read at different times by you and other theorists upon the subject of natural gas and the handling of natural gas?

A. Pennsylvania Exhibit No. 55 is a thorough discussion of the natural gas production, service and conservation situation as
3166 viewed from a practicable viewpoint, of, first operating natural gas plants, and secondly, conserving the natural gas supply for the future. That was prepared with the special purpose of educating the public, and especially the Public Service Commissions in the proper carrying out of natural gas conservation work in the interests of the public, and in the interests of the domestic consumer, as distinguished from diverting natural gas to manufacturing industries.

Q. This Pennsylvania Exhibit No. 55 includes, either in exact form, or, if not in exact form, in substance, the statements and papers that you read from time to time before various gas associations or upon other occasions, doesn't it?

A. Yes, it contains reference to probably three or four previously written papers and quotations from those papers.

ROBERT W. CUMMINS, called as a witness, having been duly sworn, testified as follows:

Direct examination.

Mr. Weil:

Q. Mr. Cummins, you reside in the City of Pittsburgh?

A. Yes, sir.

3167 Q. What official position do you occupy to the South Penn Oil Company?

A. Secretary and a member of the board and counsel.

Q. How long have you held those official positions with the South Penn Oil Company?

A. About 19 years.

Q. Reference has been made in this examination of other witnesses to certain contractual relations existing between the Hope Natural Gas Company and the South Penn Oil Company, and the parties examined were unable to give us the exact situation, are you in a position to tell us just what that relationship was and when it began, as to leases of the South Penn Oil Company, in which the Hope Natural Gas Company obtains some kind of interest?

A. In April, 1902, an agreement was entered into between the South Penn Oil Company and the Hope Natural Gas Company, by which, when the South Penn Company in drilling for oil, developed a gas well, they were to turn that well over to the Hope; and on the other hand, if the Hope Company, in drilling for gas discovered an oil well, it should be turned over to the South Penn Company; the company to which the well was turned over, paying the cost of its drilling. The agreement also vested in the Hope Company the gas rights under the leases that the South Penn held for oil and gas both, and vested the oil rights of the Hope Company under the leases it held, in the South Penn Oil Company.

3168 Q. Did that apply to the leases then held by the respective companies?

A. Yes, sir.

Q. How many acres were involved in that agreement?

A. About 214,00- acres.

Q. Did that arrangement apply to leases subsequently taken by the South Penn Oil Company after that date?

A. No, it was not intended, it was not originally intended that it should apply to after acquired leases, but I think perhaps in a few isolated cases leases were treated as if they had been under that agreement.

Q. I suppose that applied to renewals of leases that were comprehended in that agreement at that time?

A. Yes, sir.

Q. How many acres of leases has the South Penn Oil Company at the present time, which it is operating for both oil and gas, in which the Hope Company has no interest whatever?

A. About 584,000.

Q. How much of that do you carry as developed and how much as undeveloped?

A. In round numbers 136,000 as developed and 448,000 undeveloped.

Q. When the South Penn Oil Company on any of this territory in its operations develops gas, is it under any obligation to sell it to any particular party?

A. No, sir.

3169 Q. What is its practice in that respect?

A. Sell it to the purchaser who pays the most for it.

Q. How have you from time to time been selling gas thus produced by you?

A. Do you mean selling the output?

Q. Selling the gas or selling the well whichever it may be, either selling the gas well or selling the output of the well?

A. We sold by meter to the Peoples Natural Gas Company.

Mr. Steptoe:

Q. Where is the Peoples Natural Gas Company you have just named, where is it located?

A. In West Virginia.

Q. Whereabouts in West Virginia?

A. I don't know where the gas comes from; I only know the persons to whom it is sold. Manufacturers Light and Heat; Equitable Gas Company; Pittsburgh and West Virginia Gas Company; Montgomery Gas Company; Hope Natural Gas Company, United Fuel Gas Company; Continental Gas and Pipe Line Company; G. L. Cabot; Diamond Carbon Company; Oscar Nelson Carbon Company; in addition to that a great many contractors who drill wells through the West Virginia field.

3170 Mr. Weil:

Q. Did you sell any gas to the Monongahelia Gas Traction Company?

A. Yes, sir.

Q. You didn't mean that (interrupted).

A. No, sir, I didn't mean those were the only ones; I mean those were only the sales by meter or on flat rate, sold by the thousand feet.

Q. In addition to those are there others to whom you have sold gas wells from time to time?

A. Yes, there are a few; the Philadelphia Company is one of them; Monongahelia Traction Company is another; I think the West Virginia Company.

Q. Which is that, the West Virginia Central?

A. No, the Philadelphia Company of West Virginia I should say.

Q. Pittsburgh and West Virginia?

A. Yes, sir. I do not at the moment recall any others.

Q. Of the acreage originally covered by that contract to which you have testified, how much of that was developed and how much of it was undeveloped?

A. About 62,000 acres developed, and 152,000 undeveloped.

Q. You say that was the acreage covered by the contract made in 1902?

A. Yes, sir.

Q. Have you had any contract since that time of a similar character as between the Hope and the South Penn Company as
3171 to the oil or gas rights in their respective leases?

A. I think not, although there may have been a lease or two here or there, as to which they did make such a contract, but it is negligible.

Q. I was referring to a general contract of that character?

A. No, sir, no such general contract.

Q. In disposing of your gas or gas wells from time to time are

there any preferences given in sales to the Hope Company as compared with other producers?

A. Yes, in a way there are; if they pay as much as anyone else, the same price as anybody else, we will sell it to the Hope.

Q. If they pay as much as anybody else,—what about the contrary if they wouldn't pay as much?

A. They wouldn't get it.

Cross-examination.

Mr. Steptoe:

Q. In a general way, where were those 214,000 acres of developed and undeveloped leases which the South Penn sold to the Hope Company, located?

A. In twelve or fifteen different counties.

Q. In the northern section of West Virginia?

A. In Calhoun, Doddridge, Gilmer, Harrison, Lewis, Marion, Marshall, Monongalia, Pleasants, Ritchie, Taylor, Tyler, Wetzel, Wirt.

3172 Q. How many wells were there on the developed portion?

A. I don't know that, but roughly speaking I should say two or three hundred; I couldn't give you any accurate statement as to that.

Q. Prior to that time had any of the gas from those wells been marketed by the South Penn?

A. Some of it locally.

Q. Through what agencies?

A. Directly.

Q. To what cities, towns or villages?

A. Mostly to the contractors who were drilling in West Virginia.

Q. Did it sell to any companies that were engaged in marketing to the public?

A. I think not.

Q. Does the South Penn Oil Company today engage in the public service of gas?

A. No, sir.

Q. It is not now a public service corporation?

A. No, sir.

Q. And all the sales made of such gas production as the South Penn Company now has are private sales, and matters of private contract?

A. Yes, sir.

Q. I understand you to say that the price being equal, the gas is as a rule sold to the Hope Natural Gas Company?

A. Yes, sir.

3173 Q. Does the Hope Natural Gas Company discriminate against you on the price, or does it pay what others pay or are willing to pay?

A. It sometimes wants it for less money.

Q. Are you able to give up for the calendar year 1920 the total gas production for the South Penn Oil Company?

A. No, sir.

Q. Are you able to tell us the total of the sales of gas of the South Penn Oil Company during that year?

A. No, sir.

Q. Do you have that data available in your office?

A. Yes, sir.

Q. I will ask you if you can have made and presented later in the day a statement showing the total production of natural gas in West Virginia for each of the calendar years 1919 and 1920, and the distribution thereof respectively to the drilling of wells of the South Penn Oil Company for itself; to sales for the drilling of other wells to contractors; and the total sales to each of the following named companies: Hope Natural Gas Company, Reserve Gas Company, Pittsburgh and West Virginia Gas Company, Carnegie Natural Gas Company, Manufacturers Light and Heat Company, Columbia Gas and Electric Light Company, and the United Fuel Company?

A. I think I can furnish most, and possibly all of the data called for by the question, but it may require several days to get it.

3174 Q. What particular part of that information desired will delay you several days?

A. The quantity used by the company in its own operations in the field.

Q. You would be able to show from your office here the total sale of gas, outside of what it consumed itself and sold in the field?

A. I think so.

Q. You could also show the total production, or approximately the total production?

A. I hesitate to answer that question one way or the other. I don't know whether I can or not.

Q. I will ask you to investigate your records available here in Pittsburgh and give us the statement this afternoon as near as possible to what I asked for above, and especially to give the total sales exclusive of field service, and the amount of the total sales to each one of the seven companies I have named. Has the South Penn Oil Company during the last calendar year sold many gas wells?

A. I think not.

Q. Is it the practice of the company to sell its gas wells or hold them itself?

A. It is the practice to hold them where it can itself utilize the gas, and sell them where it cannot utilize the gas.

Q. What do you mean by the company utilizing the gas?

3175 A. For drilling and operating its own well.

Q. That is where the South Penn Company can use that gas production in drilling and operating for its oil wells, is that the idea?

A. Yes, sir.

Q. The South Penn Company is engaged in the oil business?

A. Yes, sir.

Q. And such gas as it has is acquired incidentally in the course of drilling for oil?

A. Yes, sir.

Q. What is the practice of the company where it cannot use that gas handily in its operations for oil?

A. Sell it to a purchaser.

Q. Sell both the gas and the well or just sell the gas alone?

A. Sometimes they sell the well, but more frequently they sell the gas.

Q. Sometimes where the particular lease appears to be gas territory, the idea would be to sell the lease if possible, would it not ?

A. Yes.

Q. I presume when you gave your figures of 584,000 acres of oil and gas territory now held by the South Penn Oil Company, you meant that acreage in the State of West Virginia?

A. Yes, sir.

Q. In fact all of your figures and statements related to
3176 operations, territory, sales and so forth in the State of West Virginia?

A. Yes, sir.

Redirect examination.

Mr. Weil:

Q. Mr. Cummins, weren't you mistaken when you said you were selling gas to the Peoples Natural Gas Company in West Virginia?

A. I think not. I took this from the record downstairs, possibly I am mistaken.

A recess was here taken until two o'clock P. M.

Afternoon Session, Thursday, March 24th, 1921.

And now the hour of two o'clock P. M. having arrived, hearing resumed, pursuant to adjournment.

JOHN B. CORRIN, recalled, testified as follows:

Direct examination.

Mr. Weil:

Q. In some of the tables submitted with reference to the holdings of leases in West Virginia by natural gas utilities in the testimony of Mr. Nease, he states the holdings of the Hope Natural Gas
3177 Company for December 31, 1919 as being 1,028,870 acres, and divides it into undeveloped and developed acreage, giving as undeveloped 690,094 acres, and developed 338,776 acres, and testified that these compilations were taken from the reports made by the respective utilities to the Board of Public Works of the State of West Virginia, did you make the reports for the Hope Natural Gas Com-

pany of which you are the general manager, I believe, as to undeveloped and developed territory?

A. The accounting department got up those figures.

Q. Under your direction?

A. Yes, sir.

Q. You are familiar with the territory held by the Hope Natural Gas Company?

A. I am.

Q. I wish you would explain what is meant by undeveloped territory in your report?

Mr. Steptoe: Objected to; that matter has already been explained on direct examination and is not proper in rebuttal.

The Commissioner: Let the objection be noted and the witness proceed.

3178 A. It constitutes all class of territory of the company that does not have production on it. That territory is made up of several different classes. I have here a statement in which the figures differ slightly from those of Mr. Nease, both of which are correct. These were taken from the land books showing the actual number of acres given by the land department. The accounting department acres and the land department acres differ very slightly. Now, the unoperated acres held by the company, according to the land books was 683,121 acres on December 31, 1920. Of these 683,121 acres, there was 27,676 acres operated exclusively by the South Penn Oil Company and in which the Hope Gas Company owned the gas. That was oil territory on which no gas was found.

Mr. Steptoe: We move to exclude the answer of the witness as not proper or rebuttal, in that he was interrogated about the year 1919, and the figures given on behalf of the defendant are for the year 1919, and no figures have at any time been given for the year 1920.

The Commissioner: Note the motion on the record.

3179 A. Then we have, of these 683,121 acres there is included 20,527 acres which is operated exclusively for oil by the Hope Construction and Refining Company. Included in this six hundred and eighty three thousand odd acres there is 234,953 acres of what we term wild cat acreage, in which the Hope Gas Company owns both the oil and gas, which has been more or less tested with mostly unsatisfactory results for gas. Included in this acreage is 63,000 odd acres in Barbour County on which ten wells have been drilled, two of them dry, eight producing with an average original open flow of 263,000 cubic feet per day and an average rock pressure of 761 pounds; and 30,162 acres in Braxton County, in which six dry holes have been drilled; also east of the Monongahelia River in Marion and Monongalia Counties thirteen wells have been drilled, eleven of them being dry, two producing with an average of 215,000 cubic feet per day and rock pressure of 98 pounds. There are 185,040 acres included in this 683,000 odd acres which is unoperated, in which the Hope Construction and Refining Company owns the oil rights, which is either mainly oil territory or wildcat territory.

There is also included 3,551 acreas unoperated in which the Hope Construction and Refining Company owns the oil rights, which is probably better gas territory than it is oil territory. On those 3,551 acreas we are paying one or more gas well royalties on each lease.

3180 Also included in this acreage is 46,379 acres in which the South Penn Oil Company owns the oil rights and which may probably be considered more as oil territory than as gas territory. Also there is included 5,095 acreas, in which the South Penn Oil Company owns the oil rights, which is more probably gas territory than oil. On this territory we obtain on each lease an agreement in lieu of drilling for one or more wells. Also included in this acreage is 4,090 acreas in which parties other than the Hope Construction and Refining and the South Penn Oil Company own the oil rights, which is probably more oil territory than it is gas. Also included in it is 250 acres which is held by other parties than the Hope Construction and Refining Company and the South Penn Oil Company that is in which they own the oil rights, which is probably better gas territory than it is oil. On this territory we are paying the equivalent to a gas well royalty. Also included in this acreage is 17,645 acres in which the Hope owns both the oil and the gas. We haven't drilled wells on it yet, but we are also paying for one or more wells on each lease. The total of this acreage comes to 545,206 acreas which explains why we are holding out of the gas territory, leaving 137,915 acreas of the 683,121 acreas which we are reasonably sure of getting some sort of gas from. As to the size of those gas wells, I cannot say, where we would be reasonably sure in our judgment we could get a well good for 750,000 feet with a

3181 rock pressure of 250 pounds we would be glad to drill that well. I don't know myself of a single place were we can have reasonable assurance in our judgment that we would get that size of a well by drilling. The producing wells that we have drilled have averaged between five and six hundred thousand a piece.

Mr. Weil:

Q. Where you state you are paying rental in lieu of drilling, you mean the rental to the land owners?

A. Yes, sir.

Q. State whether or not gas on those leases is being taken out by wells adjacent thereto and by arrangement with the land owners you are paying them just the same as if you were taking the gas out from these lands?

A. We are; the gas is being drained or at least the land owner delivers it. Also we have had a great many acres within the last ten years, probably had a million acreas, that we don't have today. There has been a turn over of acreages. We have continuously — taking up acres and surrendering other acreas. Last year we left about 20,000 acres go by expiration; the land owner would not renew it at a reasonable sum. We just let it go. This year probably will be that many more.

Q. State whether or not in the same section in which you carry

this acreage in which you have described as unoperated or wild cat territory, there is available for whosoever may desire to
3182 lease the same, other acreage of like character and to what extent such acreage exists?

A. I believe there are large blocks of territory in many of these counties that can be secured at very reasonable terms, that will look just as good for gas as this territory here.

Mr. Steptoe: The State of West Virginia objects to the foregoing question and moves to strike out the answer because of the form of the question as leading, and because of the answer being improper rebuttal testimony.

The Commissioner: Note the objection and the answer.

Mr. Weil:

Q. What is the usual payment required on these leases that are unoperated per annum, how much per acre?

A. $1.00 a year, $1.00 per acre per year.

Q. That doesn't include what you call gas rental?

A. No, sir. That is usually $300.00 per year regardless of the size of the tracts.

Mr. Blue:

Q. When you get a well?

A. No, this is in lieu of a well. On some of the larger
3183 farms we paid as high as five rentals, large farm, large acreage.

Mr. Weil:

Q. Are you familiar with the general situation as to the holdings of undeveloped territory of these large companies?

A. In a general way, yes, sir.

Q. What do you say as to whether or not the same general conditions obtained with reference to those companies as you have described with reference to yours.

Mr. Steptoe: Objected to by the State of West Virginia as manifestly improper in view of the witness having merely general information. It is objected further as improper rebuttal testimony, and objected to further as leading, incompetent and immaterial.

The Commissioner: Note the objection and let the witness proceed.

A. I would say it was practically the same as we keep track to a great extent of the holdings of other companies on the map.

Cross-examination.

Mr. Steptoe:

Q. How much developed and undeveloped territory has
3184 the Pittsburgh and West Virginia Gas Company?

A. I would say about 327,000 acres in West Virginia.

Q. How much developed territory and how much undeveloped has the Manufacturers Light and Heat Company?

A. I would say about probably one hundred to one hundred twenty thousand acres.

Q. How much developed and undeveloped territory has the Carnegie ?

A. I would say about 75,000.

Q. How much developed and undeveloped territory has the United Fuel?

A. I would say -bout 900,000 to a million acres.

Q. Those figures were practically given in the testimony of Mr. Nease, the statistician?

A. I didn't hear Mr. Nease's testimony, and haven't read it either.

Q. But any statistics showing the holdings of the various companies and the Public Service Corporations in West Virginia, predicated on the reports of those companies, should be correct?

A. It should be.

Q. Whatever those reports to the Board of Public Works show as the statement of the company as to acreage, both developed and undeveloped, that is final, is it not?

A. Yes, sir.

Q. You don't mean to attack the correctness of Mr.
3185 Nease's statement that the holdings of the Hope Natural Gas Company for the year ending December 31, 1919 consisted of undeveloped acreage to the amount of 690,094, undeveloped acres; 338,776 developed acres, making a total of 1,028,870 acres at that time?

A. Not in the slightest. These figures I gave here, there is just a little difference between the land department and the accounting department.

Q. That is such a discrepancy, so small, as might likely occur in the different departments?

A. Yes, sir.

Q. Isn't it true, Mr. Corrin, that every gas company operating on any scale holds doubtful territory?

A. Well, from my experience and knowledge of West Virginia Companies, yes, sir.

Q. That is not confined to the Hope, but to all of them?

A. Yes, sir.

Q. At the same time, in order to hold that, it is necessary to pay the delay rental of $1.00 an acre or in many instances to pay for a well before it is drilled?

A. Yes, sir.

Q. It is on those terms that your company and the other companies are now holding their undeveloped acreage?

A. It is.

Q. Isn't it further true that undeveloped acreage as listed
3186 in the returns of the Hope Natural Gas Company and the Reserve Gas Company to the Board of Public Works of West Virginia embraces those tracts on which there are no wells drilled?

A. Yes, sir, no gas wells, there have been oil wells.

Q. And that the developed tracts or developed acreage is where there has been a well drilled on that particular leasehold?

A. Where there has been a gas well drilled, yes, sir.

Q. I am referring to gas wells?

A. Yes, sir.

Q. The acreage of those developed tracts varies, doesn't it, from a few acres up to a considerable size?

A. Yes, sir.

Q. You don't mean to say that as a practical matter the drilling of one well has fully developed that acreage, do you?

A. No, but some of those tracts have a great many wells on.

Q. It is possible that they have only one on?

A. Yes, sir.

Q. It is entirely possible that in many instances those tracts are not fully developed, and other wells can be and you expect to drill——

A. If there are any such in our company, I don't know where they are.

Q. Every tract that you have drilled at all for the Hope
3187 Natural Gas Company is in your opinion fully developed today?

A. I really believe that all of the tracts on which we have wells, I think are developed as much as we can afford to drill those tracts to get our money back and a fair return.

Q. You spoke considerably of wild cat territory, are the other gas companies in that same territory holding acreage?

A. In some of those sections, yes.

Q. It is pursuant to the general practice of gas companies taking up territory which today might appear doubtful and tomorrow might be of value?

A. That is possible although we have drilled wells in most of this wild cat territory in a sufficient number to lead us to believe that there are no large gas wells to be secured. There might be some small gas wells secured but we cannot afford to drill those wells at the present time for the small amount of gas we might get.

Q. Why do you hold them?

A. With the hope of getting more money for our gas when we can afford to drill those small wells.

Q. Your idea is that some day the amount of gas that can be produced from there will be developed?

A. We hope so.

Q. The Hope Construction and Refining Company is a recently organized company?

A. Yes, sir.

3188 Q. When?

A. It was sometime last year, in 1920.

Q. Wasn't that done simply to segregate the oil production of the Hope Construction and Refining Company from the gas production of the Hope Natural Gas Company?

A. I don't know what the purpose was; it did segregate it; it did do that; I don't know what the purpose was.

Q. The oil development is handled by the Hope Construction and Refining Company?

A. Yes, sir, it was found that the oil production could be handled by a separate organization better than by the gas organization.

Q. Does the Hope Construction and Refining Company hold the oil rights in the tracts of land leased to the Hope Company?

A. They do, 185,040 acres undrilled, unoperated.

Q. I mean what would happen where the Hope Company in the course of drilling for gas struck an oil well?

A. If it was drilling this 185,000 acres they would transfer that well to the Construction Company at cost.

Q. Does the Hope Construction and Refining Company drill itself?

A. Yes, sir.

Q. If it strikes a gas well it is turned over to the Hope Natural Gas Company?

A. Yes, sir, because the Hope Natural Gas Company owns the gas rights in the leases.

Q. It is substantially the same sort of an agreement that
3189 years ago was entered into between the South Penn Oil Company and the Hope Company, as testified to by Mr. Cummins this morning?

A. Practically the same arrangement.

Q. The Hope Construction and Refining Company being a subsidiary of the Hope Natural Gas Company, the stock is held by the same stockholders?

A. Yes, sir.

Q. That is that the stock of the Hope Construction and Refining Company is held by the same company that own the stock of the Hope Natural Gas Company?

A. Yes, sir.

ROBERT W. CUMMINS, recalled, testified as follows:

Cross-examination.

Mr. Steptoe:

Q. Have you been able to procure the statement showing the various data required by me at the morning session?

A. I have prepared a statement which I think covers the ground of your request.

Q. Have you that prepared statement with you?

A. Yes, sir.

Q. Will you please read that statement into the record.

3190 *Statement Showing Total Amount of Gas Sold by the South Penn Oil Co. in West Virginia During the Years* 1919 *and* 1920.

	1919.		1920.	
Peoples Natural Gas Company	206,089,000	cu. ft.	127,899,000	cu. ft.
Pittsburgh & West V. Gas Co.	29,416,000	" "	22,594,000	" "
Montgomery Gas Co.	75,089,000	" "	90,679,000	" "
Hope Natural Gas Co.	908,850,000	" "	492,813,000	" "
United Fuel Gas Co.	457,916,000	" "	657,080,000	" "
Centerville Gas & Pipe Co.	6,014,000	" "	8,747,000	" "
Godfrey L. Cabot	127,739,000	" "	73,068,000	" "
Diamond Carbon Co.	28,066,000	" "	21,202,000	" "
Oscar Nelson Carbon Co.	63,655,000	" "	60,059,000	" "
South Penn Oil Co. for drilling Wells	464,230,000	" "	437,690,000	" "
South Penn Oil Co. for Pumping Wells Cleaning Out and Steaming Tanks	807,769,000	" "	1,801,240,000	" "
Contractors & Others for Pumping Wells Cleaning Out, etc.	116,699,000	" "	114,870,000	" "
Sundry Individuals, Principal-y Company Employes	193,393,000	" "	203,509,000	" "
3191 Grand Total	3,484,925,000	" "	4,111,450,000	" "

3192 Mr. Weil:

Q. Mr. Cummins, calling your attention to the first item given by you, Peoples Natural Gas Company, since you have investigated that, can you tell us where that was delivered?

A. At Brave Station.

Q. That is in Pennsylvania?

A. Yes, sir, just over the line out of West Virginia.

Q. Was that actually sold in West Virginia?

A. No, sir.

Q. You have not included in this statement what is commonly called free gas, that is the gas given under the leases to the owners of the lands on which you have obtained leases, on which you operate?

A. No, sir.

Q. I suppose you have no data that would show the amount of that, have you?

A. Not accurately, nothing that will show it accurately.

Q. Mr. Cummins, under the heading "Sundry Individuals, principally company employes", will you please explain that a little more fully?

A. We sell gas to farmers and some other persons living in the vicinity of the wells which produce it, or of the gas wells which connect those wells together. Most of those people are the company's own employes.

Q. Who live on the leases or near?

3193 A. Or near, yes, sir.

Mr. Steptoe:

Q. Through what line or lines does the South Penn Oil Company deliver the gas sold to the Peoples Natural Gas Company, at Brave Station?

A. I suppose through its own line, as the wells are nearby as I understand it, just a short line.

Q. Do you know that to be the fact?

A. I don't know it; I only take it for granted that that is the situation there.

Q. I believe I am correct in saying that the Peoples Natural Gas Company is a standard oil concern, like the Hope Natural Gas Company is in West Virginia?

A. I only know that by reputation.

Mr. Weil: The rebuttal testimony on behalf of the complainants is closed, with the understanding and agreement with counsel for the defendant that if between now and the first of April the complainants should desire to introduce some further testimony in rebuttal, because of something having been inadvertently omitted, notice will be given of the time and place of meeting, so that the

3194 same may be taken before the first of April; the same arrangement being made here as was arranged between both parties

when they respectively closed their testimony in chief. Unless such notice is given, then the testimony on behalf of the complainants is closed.

The Commissioner: Let the record show that the hearing is closed subject to the statement of counsel and the understanding between counsel pending further notice.

ORIGINAL, #20 & #21.

3195 Supreme Court of the United States, October Term, 1920.

Nos. 20 and 21, Original.

THE COMMONWEALTH OF PENNSYLVANIA, Complainant,

vs.

THE STATE OF WEST VIRGINIA.

THE STATE OF OHIO, Complainant,

vs.

THE STATE OF WEST VIRGINIA.

Before Levi Cooke, Esq., Commissioner.

Defendant's Testimony in Sur-Rebuttal.

Proceedings of April 26, 1921.

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Witnesses.	Direct.	Cross.	Redirect.	Recross.
Nease	3198	3221	3227	3229
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Exhibits:	Page.
West Virginia No. 61	3210–3214
" " " 62	3217

3197 Supreme Court of the United States, October Term, 1920.

Nos. 20 and 21, Original.

THE COMMONWEALTH OF PENNSYLVANIA, Complainant,

vs.

THE STATE OF WEST VIRGINIA.

THE STATE OF OHIO, Complainant,

vs.

THE STATE OF WEST VIRGINIA.

Before Levi Cooke, Esq., Commissioner.

Defendant's Testimony in Surrebuttal, April 26, 1921.

Appearances:

On behalf of the Commonwealth of Pennsylvania, A. Leo Weil, Esq., Pittsburgh, Pa.

On behalf of the State of Ohio, Freeman T. Eagleson, Esq., Columbus, O.

On behalf of the State of West Virginia, E. T. England, Attorney-General, Charleston, W. Va., Fred O. Blue, Charleston, W. Va., Phillip P. Steptoe, Clarksburg, W. Va.

Pursuant to notice, the Commissioner and counsel above noted, met at the office of the Attorney General for the State of West Virginia, at the City of Charleston, West Virginia, for the purpose of taking testimony in surrebuttal on behalf of the defendant, State of West Virginia; and thereupon, pursuant to order of the
3198 Court governing the taking of testimony, the State of West Virginia opened its testimoney in surrebuttal.

H. E. NEASE, called as a witness and having been duly sworn, testified as follows:

Direct examination.

(By Mr. Steptoe:)

Q. Mr. Nease, I believe you testified in this case heretofore as a witness for the State of West Virginia on direct testimony?

A. I did.

Q. In the rebuttal testimony of the complainant states Mr. Edwin Robinson filed certain exhibits, namely, Pennsylvania Exhibits Nos. 50, 51, 52, 53 and 54. I call your attention now to Pennsylvania Exhibit No. 50, which appears copied in the testimony at pages 17 to 20, both inclusive, of the manuscript paging of rebuttal testi-

mony. I wish you would state in what respect, if any, the statistics appearing in Pennsylvania Exhibit No. 50, differ from the statistics given by you on behalf of the State of West Virginia, on direct testimony, and in this connection I will first ask you if the statement of Pennsylvania Exhibit No. 50 is made on the same basis as the statistics given by you on direct testimony by the State of West Virginia?

A. Well, where they purport to be the same thing, or to show the same thing, they are substantially in accord with testimony of mine referred to.

3199 Q. In your statistics given on direct examination, did you deal with gas imported into the State?

A. If you mean in connection with the figures on natural gas production in the State of West Virginia, and other statements made in connection with such production, I didn't.

Q. Pennsylvania Exhibit No. 50 does take into consideration the imports, does it not?

A. It does.

Q. Taking the production of natural gas in the State of West Virginia, as shown on Pennsylvania Exhibit No. 50, how do those figures agree with the total production as given by you on direct examination?

A. They are the same.

Q. With respect to the quantity of gas exported from the State, as shown on Pennsylvania Exhibit No. 50, did you give the export figures, totals for all producers, in the direct testimony?

A. I didn't.

Q. The export figures given by you in your testimony in chief related to the seven companies only?

A. Yes.

Q. On Pennsylvania Exhibit No. 50, I call your attention to the total consumption within the State, is that total consumption made up of the two following items of domestic consumption and industrial consumption?

A. As shown by me in this statement, yes.

Q. Does that total consumption within the State include
3200 on Pennsylvania Exhibit No. 50 the amount of gas imported?

A. It does.

Q. Taking the component parts of total consumption within the State, I direct your attention to the heading "Domestic Consumers and Consumption", as shown on Pennsylvania Exhibit No. 50. What consumers are included in the number of consumers there shown?

A. The figures shown include domestic consumers, including consumers of free gas.

Q. In your statistics given in chief, did you include among the number of domestic consumers in the State of West Virginia, the users of free gas; that is, concerns who received gas as a consideration for the lease?

A. I didn't, neither did I include in my figures of gas consumed by domestic consumers, gas consumed by such lessor consumers.

Q. In other words, domestic consumers and domestic consumption, as shown on Pennsylvania Exhibit No. 50, differs from your direct testimony in that Pennsylvania Exhibit No. 50, includes the amount consumed by lessors and those who received free gas for rights of way.

A. Yes.

Q. And those users are included among the number of domestic consumers?

A. As shown on Pennsylvania Exhibit No. 50.

Q. And they were not included in the figures given by you in your testimony as a witness for the State of West Virginia
3201 heretofore?

A. They were not, and it was so explained at the time.

Q. Now, with regard to the heading of "Industrial Consumers", that heading gives on Pennsylvania Exhibit No. 50, only the amount consumed without the number of consumers?

A. Yes.

Q. What is the character of the consumption there listed under the head of "Industrial Consumption"?

A. That would include all consumption other than domestic consumption.

Q. Do those figures on Pennsylvania Exhibit No. 50 include the quantity of gas used in the drilling of wells, by the several companies, or sold in the field for field use?

A. They would.

Q. Well, do they?

A. They do.

Q. What about gas used in the manufacture of carbon by various quasi-public service corporations, such as the Carbon Black Manufacturing Companies? Are those figures included on this Pennsylvania Exhibit No. 50 under industrial consumption?

A. They are.

Q. In other words, to summarize, the quantity shown as used or consumed within the State of West Virginia on Pennsylvania Exhibit No. 50, is the total production of the State of West Virginia less the exports?

A. No.

Q. Does your answer take into consideration the imports?
3202 A. I am not sure as to the answer referred to. The sales shown on the Exhibit, total sales, domestic and industrial, include both the production in the State of West Virginia and the imports to the State of West Virginia, less the quantity exported.

Q. And the consumption within the State given, for example, for the year 1919, as 83,769,937 M cubic feet, gives the total amount of gas used in the State of West Virginia for all purposes, including drilling of wells, used in the manufacture of carbon, used in manufacturies and other industrial concerns, and for domestic service?

A. Yes.

Q. And also includes free gas given to lessors and to grantors of rights of way?

A. Yes.

Q. Those then are the differences and reconcilable differences, between the testimony in chief and statistics there given and this statement which you have given to Mr. Robinson at his request, filed by him as Pennsylvania Exhibit No. 50?

A. Yes.

Q. Mr. Robinson also filed with his testimony Pennsylvania Exhibit No. 51, and Pennsylvania Exhibit No. 52, neither of which is copied into the transcript of the record. What relation have these two Exhibits to Pennsylvania Exhibit No. 50, if any?

A. I believe No. 51 is detail of the total production figures shown on No. 50, gives the detail of the total production figures
3203 shown on No. 50.

Q. And No. 52?

A. No. 52 gives further detail of Exhibit No. 51 and No. 50, as to the consumers and the consumption of gas.

Q. Do any one of these 3 Pennsylvania Exhibits, 50, 51 and 52, give the quantities purchased by the various public corporations of West Virginia?

A. They don't.

Q. I refer to purchases within the State of West Virginia and not those purchases made by exporting companies at the State line.

A. These statements don't show any gas purchased.

Q. Of any kind?

A. Of any kind.

Q. Gas purchased by the several companies, who sell gas for transport out of the state, or who actually transport, is shown in the last column of Pennsylvania Exhibit No. 51, giving exports to other States, are they not?

A. Well, in a way such showing is made, the gas exported from the State is shown in the last column of Exhibit No. 51.

Q. And the total exported, irrespective of whether produced or purchased, including both?

A. Yes.

Q. For example, I call your attention to Columbia Gas & Electric Company, which shows a production of 5,757,091 M. cubic feet, which nevertheless, exports 15,624,225. There the amount exported would include some gas purchased, would it not?

3204 A. It would.

Q. And the same also obtains with respect to one or two other companies on Pennsylvania Exhibit No. 51?

A. Yes, sir.

Q. Such as the Hope Natural Gas Company and the Pittsburgh & West Virginia Gas Company?

A. Yes, that same condition obtains as to several of the other companies.

Q. With respect to Pennsylvania Exhibit No. 52, and as illustrative of what you testified to a moment ago, I call your attention to the number of domestic consumers and the number of industrial consumbers assigned to Hope Natural Gas Company. These figures appear to differ from the number of domestic consumers and number of industrial consumers which were assigned to the Hope Nat-

ural Gas Company on your testimony in chief. Have you any explanation to offer of that variance?

A. The difference is due to the inclusion in the figures on Exhibit No. 52 of the free gas consumers and of the drilling or field consumers. Such consumers were not included in the figures given in connection with the Hope Natural Gas Company in my previous testimony.

Q. And that same variance would occur with respect to certain other companies listed on Pennsylvania Exhibit No. 52, as compared with your former testimony?

A. Yes, as to the seven companies.

Q. From what source, or sources, did you compile these statistics supplied by you to Mr. Robinson, and reflected in Pennsyl-
3205 vania Exhibits Nos. 50, 51 and 52?

A. From the figures given in the tax reports to the Board of Public Works.

Q. You mean what we have heretofore filed and referred to as reports of the various public service corporations to the Board of Public Works of the State of West Virginia?

A. Such reports have previously been filed in this case in regard to what are known as the seven companies.

Q. But not for the other public service corporations of the State of West Virginia?

A. No.

Q. But in making up the statistics referred to in Pennsylvania Exhibit No. 50, you gathered the information there from that kind of returns made to the Board of Public Works by each and every of the public service corporations?

A. Yes.

Q. And also for certain other companies, not strictly public service corporations, that had reported to the Board of Public Works; for example, The Carbon Company, Ohio Fuel Oil Company, South Penn Oil Company?

A. Well, it is true that that statement would show additional information to what would have been gathered from the tax reports. The statistician of the Public Service Commission had collected information from the carbon black plants as to their production, and in that way got the information as to such companies.

Q. The point I wish to bring out is whether or not in making the statistics shown on Pennsylvania Exhibit No. 50, you re-
3206 sorted to the monthly reports made to the Public Service Commission by the various public service corporations?

A. I didn't.

Q. Did you, in the statistics and Exhibits, filed by you in your testimony in chief for the State of West Virginia, take into consideration those monthly reports?

A. I did. It became necessary because the reports filed with the Board of Public Works did not contain sufficient information.

Q. Let me ask you if you found any discrepancies between the two, the monthly reports and the report to the Board of Public Works?

A. Some slight discrepancies, a slight discrepancy in connection with the Carnegie Natural Gas sales to field consumers, but they were very slight discrepancies.

Q. Did you check those discrepancies or correct according to the monthly reports?

A. I did.

Q. I now direct your attention to Pennsylvania Exhibit No. 54, filed by Mr. Edwin Robinson, purporting to be the conglomerate statement of producers of both oil and gas, with the acreage, as far as he could ascertain held by each. Have you, at my request, checked that list to ascertain whether or not it includes all the producers of natural gas who sold to the seven companies?

A. I have.

Q. And have you checked it to see whether it includes all
3207 the producers who sold to the public service corporations of West Virginia?

A. Yes.

Q. From what source did you ascertain the names of the producers of natural gas who sold to the seven companies?

A. From the reports to the Board of Public Works, reports of such companies to the Board of Public Works.

Q. Those are the same reports which are in evidence in this case?

A. Yes.

Q. How many producers of natural gas, other than the public service corporations of West Virginia, did you find listed by the seven companies as selling to the seven companies?

A. 202.

Q. How many of those 202 producers, which we will, for the sake of distinction, call independent producers, did you find listed on Pennsylvania Exhibit No. 54?

A. 60.

Q. Mr. Robinson, as I understand it, has omitted from his Pennsylvania Exhibit No. 54, 142 out of 202 producers of natural gas who sold to the seven companies?

A. Yes.

Q. Are you able to give me from any of the public records of the State of West Virginia the acreage, gas territory, held by these 142 omitted independent producers?

A. I am not.

Q. Are there any records, public records, or records to
3208 which you have access from which that information is obtainable?

A. There are no such records to my knowledge.

Q. Did you, at our request, prepare a list of those 202 independent producers selling to the seven companies?

A. I did.

Q. Will you produce that list?

A. I will.

Q. Will you please mark this list West Virginia Exhibit No. 61, and read the same into the record.

Mr. Weil: That is objected to as incompetent, irrelevant and immaterial, as not surrebuttal testimony, does not *not* contradict or explain any testimony offered in rebuttal by the complainants, and only corroborates to some extent the exhibit filed as No. 54, on the part of the complainants, and shows not only corroboration of such statement, but that for want of data or information complainant's Exhibit No. 54 omitted 142 producers and the amount of acreage controlled by them, which would have made the acreage showing by such independence just that much larger than appears on Exhibit No. 54. The Exhibit is further objected to for the reason that it does not purport to show the acreage controlled or owned by a large number of those listed upon the paper, possibly a half thereof. It is further objected to for the reason that the title is altogether misleading, is contrary to the facts as already appears in the evidence, if the heading is taken as its face value, it appearing, for example, by the heading, "List of Independent Gas Producers who sell gas to one or more of the seven companies," then appear the names of certain companies with certain large acreage owned by those companies, and it has already appeared in the evidence that these companies, while they do perhaps, sell some gas to some of the seven companies, also sell gas to others, and therefore, the implica-
3209 tion that this entire acreage is devoted to the production of gas sold to the seven companies is wholly misleading, from the title of the paper to the facts set forth therein; and the witness has no means of knowledge or information upon these subjects, he having stated that he compiled his data from information furnished by the public utilities to the Public Service Commission or the Board of Public Works, and many of these companies make no such reports, are individual producers or companies producing oil, and therefore, making no reports as public utilities to any of the State departments of West Virginia.

The Commissioner: Note the objection and let the witness answer.

A. I will. The same reads as follows:

3210 WEST VIRGINIA EXHIBIT No. 61.

"List of Independent Gas Producers Who Sell Gas to One or More of the Seven Companies.

Producers.	Acreage.
Adlia Oil Company	
xAmerican Oil & Development Company, The	7,865
American Petroleum and Natural Gas	
xAnderson and Company	77
Associated Gas Company, The	
Alkire Oil and Gas Company, The	
xAnderson Oil and Gas Company	50
xAtlas Gas Corporation	600
Broadus College	
Barron, C. A. et al.	

Producers.	Acreage.
xBeacon Oil and Gas Corporation	2,000
Bennett, Louis Estate	
Betts and Braden Company	
Blackshere Oil and Gas Company	
Boone, H. P. Oil and Gas Company	10
xBunnell, Charles I. et al	45
Butler, Charles P.	
Brown's Creek Oil and Gas Company	
Burnsville Gas Company,	
Broderick, A. J.	
Belvard Oil and Gas Company,	
Blue Creek Cons. Oil Company,	
Cabin Run and Lynn Camp Oil and Gas Company,	
Criss Oil and Gas Company,	
xCarr and Bowser	3,580
xCarter Oil Company	197,490
xChampion Oil and Gas Company	1,505
Cabot, Godfrey L.	
Clarksburg and Morgantown Oil and Gas Company,	
Charleston-Dunbar Natural Gas Company,	
Collins, R. J. & A. B.	
xCommonwealth Petroleum Company	18,600
Conservative Oil and Gas Company	
xContinental Oil and Gas Company	2,565
Crislip, C. E.	
xCrude Oil Company, The	4,028
Cummings, J. J. et al.	
xCayton Oil and Gas Company, The (Williams & Cayton)	1,030
Coletrane Oil and Gas Company,	
Commercial Coal and Coke Company,	
Curtin, H. B.	
xCabin Creek Oil and Gas Company	8,005
Central Wayne Oil and Gas Company,	
Charleston-Clendenin Oil and Gas Company,	
Clendenin Oil and Gas Company,	
xColumbian Carbon Black Company	5,246
Crawford, J. E.	

3211

Davis, Thomas J.	
Deison, E. B. et al.	
Demo Oil and Gas Company,	
Determan and Gum,	
Dufour, Geo. L. et al.	
Depue Gas Company,	
Eastern Oil Company	
xEagle Distric- Gas Company	160
xEastern Petroleum Company	11,499
Edwards and Emiston	
Empire Gas Company,	

Producers.	Acreage.
Edinger, H. H.	
Ewing Oil Company,	
Eidy, W. H. Oil and Gas Company,	
East Lynn Oil and Gas Company,	
xEmpire Petroleum Company	5,096
Farron, K. C.	
Fisher, Jake	
Fisher, W. H. et al.	
Fittro, Ira, Et al.	
Fleming, Curtis B.	
xFisher Oil Company	52,738
G. & G. Oil Company,	
Goff, Nathan	
Greenwood Oil Company,	
xGribble, W. Dexter	825
Griffin, Sheridan	
Gas Coal Oil Company,	
xGreenleaf and Starcher	13
xGuffey-Gillespie Oil Company, (R. G. Gillespie)	5,732
Haught, Ira	
xHays and Satterfield, (S. A. Hays, et al	400
Henaghan and Hanlan	
High Grade Oil Company,	
Home Gas Company,	
Hornor and Schaffner	
xHornor, Boyd E	175
xHenderson, C. J.	
xHornor, L. S., Trustee	4,300
xJackson Oil Company, The	179
Johnson Oil Company,	
Jarvis, Hugh	
xJackson, J. O. Company	1,200
xJennings Oil Company	4,027
3212	
King, M. H. et al.	
xKeystone Oil Company, The	
xKanawha City Gas Company	3,046
xKoontz, L. (Koontz and Osborne)	465
Lamp, A. E. et al.	
Liberty Oil and Gas	
xLocke, J. T. et al	628
Louchery, D. C.	
Lowndes, R. T.	
Longabaugh, (Labaugh) E. S. et al.	
xLatty Oil & Gas Company	207
xLittle Sycamore Oil and Gas Company	1,400
Lincoln Natural Gas Company,	
xLaurel Development Company	1,000
Maxwell and Jarvis,	

Producers.	Acreage.
xMcDermott, J. H. Oil Company	1,681
xMcGinnis, H. E. et al	463
McKinley and Fisher	
Meservie, W. R. et al.	
Middle Island Oil and Gas Company	
xMill Fork Oil and Gas Company	2,000
Mineral Springs Oil Company,	
Monroe, R. S.	
Moore, A. B.	
Myers Stone Oil Company,	
Martin Brother	
xMaxwell, W. Brent	1,300
Mittong, H. H.	
McFarlin, Fred A.	
McSweeney, Edward,	
McWhorter, J. C.	
McGray, D. D.	
McCormick, David, et al	
Meteor Carbon Company,	
xMoore, Herman	36
Meadon and McClure	
Millbranch Gas Company	
Nay and Ewizer	
Neal Oil and Gas Company	
Nina Oil and Gas Company,	
Navajo Gas Company,	
Nye Development Company	
3213	
xO'Brien, Wm. S. Trustee	
Ohio Valley Oil and Gas Company	
Oakland Oil Company,	
Overhold, J. W. & Company,	
Overholt, I. F. et al.	
xOhio Fuel Oil Company	86,443
xOhio Cities Gas Company (Now Pure Oil Company)	155,987
Ohio Oil, Gas and Distributing Company,	
O'Connell Oil Company,	
xOwens Bottle Machine Company. (Libby-Owens Glass Co.)	60,000
xParrish, T. J. (Grove and Parrish)	397
Peoples Natural Gas Company,	
Piel and Strohmyer	
Producers Gas Company,	
Purinton Oil Company,	
Pelham Oil and Gas Company,	
Priddle Oil and Gas Company,	
Putnam Oil and Gas Company,	
xRandolph and Lowther	539
Ritchie Oil Company,	
Rinehart, R. T.	

Producers.	Acreage.
xRuth, Stout and Strong	400
Robinson Oil and Gas Company,	
Randolph Milton	
xSouthern Oil Company	33,264
xSalem Fork Oil and Gas Company	100
xSchaffner Brother	598
xShinns Run Oil and Gas Company	10
Simpson Creek Oil and Gas Company	
xSouth Penn Oil Company	603,126
3214	
Sanburn Oil and Gas Company,	
Stephens, L.	
Steel and Allman Oil & Gas Company,	
Strothers, R. L. et al.	
xStrothers, W. L. et al.	42
Sheets, Arthur and Company,	
Swiger, Ernest S. et al.	
xSahley and Skaff	7
xSayer Gas Company, (Ira G. Sayer)	9,240
Silman, Peter	
Stanton, E. G.	
Stonewall Oil and Gas Company,	
Sun Oil Company	
Strother Brothers, and Ward	
Temmils Oil and Gas Company,	
The Oil and Gas Company,	
Thomas, Wellington	
Townsell, I. P. et al.	
Underwood Oil Company,	
xVester Oil and Gas Company	2,451
xVictoria Oil Company	1,205
Vance, J. Carl & L. S. Hornor,	
Walker, H. B. Trustee,	
Westfall, J. B. & F. E. Pritchard,	
Whan, S. M.	
White, Clark	
xWilson, G. W. et al (Smith and Wilson)	1,641
xWiser Oil Company, The	9,672
Walton, J. L.	
Whelan, T. A. and Frank Alfred,	
Wise, T. M.	
Woolard, Herebert,	
Wayland, Oil and Gas Company,	
xWeston Carbon Company	420
W. Va. Land and Oil Company,	
Whelan, T. A.	
Total number Producers 202. Total acreage	1,316,807

NOTE.—"x" indicates those producers shown on P. A. Ex. No. 54	60
Remainder on this list, not shown on Pa. Ex. No. 54	142
Total	202

3215 Q. As I understand you, Mr. Nease, this list which you have just read into the record is simply a list of those producers who are named by the seven companies in their returns to the Board of Public Works for the calendar year 1919, as selling gas to one or more of said companies?

A. Yes.

Q. I observe that you have an X or cross mark in front of a number of companies listed. Please explain that cross mark.

A. As explained on the last page of this Exhibit, such companies are included in Pennsylvania Exhibit No. 54.

Q. And opposite those so marked with an X, you have assigned an acreage. Where was that acreage taken from?

A. From Pennsylvania Exhibit No. 54.

Q. Have you any personal knowledge of the correctness of that acreage?

A. I have not.

Q. You have simply accepted the statement of Pennsylvania Exhibit No. 54 as to the acreage held by those producers marked with an X?

A. I did.

Q. Have you examined the returns by all of the other public service corporations of West Virginia made to the Board of Public Works for additional independent producers of gas and by additional, I mean those in addition to the ones shown on the above list?

A. I did make such examination.

3216 Q. Please produce it.

A. I now have the list here.

Q. How many producers are shown on this list?

A. 43?

Q. And have you checked this list with Pennsylvania Exhibit No. 54 to see how many on this list are also listed on Mr. Robinson's Pennsylvania Exhibit No. 54?

A. I did.

Q. How many appear on both?

A. 10.

Q. How many shown on this list do not appear on Mr. Robinson's list at all?

A. 33.

Q. Opposite those companies or producers marked with an X, you have assigned an acreage, and where did that acreage come from?

A. It comes from Pennsylvania Exhibit No. 54.

Q. Will you now, please mark this last list as West Virginia Exhibit No. 62 and read the same into the record?

Mr. Weil: This is objected to for the same reason that West Virginia Exhibit No. 61 was objected to.

The Commissioner: Note the objection and let the witness answer.

A. I will, and the same reads as follows:

3217 WEST VIRGINIA EXHIBIT No. 62.

"Other Independent Producers Selling Gas to West Virginia Public Service Corporations.

Cork and Bowman,	
C. O. G. Company,	
Cave Oil and Gas Company,	
xColetrane, J. N.	64
Camden Natural Gas Company,	
xChalmers Oil Company	750
Crooked Run Gas Company	
Dolan, S. E.	
Furno Oil Company,	
Ft. Martin Gas Company,	
Griffin Producing Company,	
Garard, J. L.	
Hazel Atlas Glass Company,	
xHornor Gas Supply Company	72
Hackers Creek Oil and Gas Company,	
High View Oil & Gas Company,	
Jackson, W. A. Gas Company,	
xJohns Gas Company	1,000
Lambert Oil and Gas Company,	
Monarch Carbon Company,	
Mississippi Glass Company,	
xNorwood Gas Company	757
Pickens Farm Gas Company,	
Prunty Oil and Gas Company,	
Roy and Meabon Brothers,	
Rinehart, Geo.	
Randolph, Ernest	
xReno Oil Company	3,675
Schaffner, J. F.	
Summit Oil and Gas Company,	
Schaffner, J. S.	
xSovereign Gass Company	4,400
xSchaffner and Company	16
Stockton Oil and Gas Company,	
Sullivan and Dresser,	
Taylor, E. J. & D.	
Triple Alliance Oil and Gas Company,	
xUnited Oil Company	290
Union Gas and Carbon Company,	
xUniversal Oil Company	300

Van Voorhis,
Victory Oil Wells, Inc.
Wilson and Harris.

Total number Producers 43; Total acreage..... 11,394

NOTE—"x" indicates those producers shown on Pa. Ex. No. 54.. 10
Remainder on this list, not shown on Pa. Ex. No. 54..... 33

Total 43

3218 Q. Taking both West Virginia Exhibit- No. 61 and No. 62, please state the total number of independent producers selling to all of the public service corporations of West Virginia, as far as disclosed by the returns of those public service corporations to the Board of Public Works of West Virginia?

A. There are 245 such producers.

Q. How many of those 245 are shown on Mr. Robinson's Pennsylvania Exhibit No. 54?

A. 70.

Q. How many omitted?

A. 175.

Q. I believe you stated that the only producers whose acreages, respectively, were ascertainable by you were the 70 which also appear on Pennsylvania Exhibit No. 54?

A. I so stated.

Q. And on those you accepted the acreage statements of Mr. Robinson as correct?

A. Yes, as shown on said Exhibit, Pennsylvania No. 54.

Q. Please state the total acreage of those producers appearing on West Virginia Exhibit No. 61, which also appear on Pennsylvania Exhibit No. 54?

A. 1,316,807.

Q. And what is the total acreage of those producers shown on West Virginia Exhibit No. 62, and also on Pennsylvania Exhibit No. 54?

A. 11,394.

3219 Q. Do you know, or can you ascertain, from any public records of the State of West Virginia, any persons, firms or corporations producing natural gas in West Virginia, other than the public service corporations of the State and those producers listed on West Virginia Exhibits Nos. 61 and 62?

A. To my knowledge such information would not be available from any State Department. I might state further, however, that there would not be any such producers to any considerable extent, there might be the few that might sell to carbon factories, carbon black factories.

Q. And some private enterprises?

A. And some private enterprises.

Q. Well, as to the sales of gas, to the carbon black companies, is not that production shown and taken into consideration?

A. Not in Exhibit No. 62.

Q. On West Virginia Exhibit No. 61, have you not listed carbon black manufacturers there?

A. I don't know, Exhibit No. 61 showns the purchases of gas by the seven companies. In other words, to make myself clear on that point, West Virginia Exhibit- No. 61, *No. 61* and No. 62, includes the names of all producers in the State except a very few, that would sell to carbon black plants and private enterprises, aside from the utilities themselves.

Q. Where those carbon black companies sell gas to public service corporations of West Virginia, they are listed on West Virginia Exhibits Nos. 61 and 62?

A. Oh, yes, they would be listed.

3220 Q. And the amounts which they sell to West Virginia Public Service Corporations are reflected in your statistics?

A. Yes.

Q. Do you personally know of any producers of natural gas, other than those shown on West Virginia Exhibit- Nos. 61 and 62, and the list of public service corporations of West Virginia?

A. I don't.

Q. Is it true that a good many of the oil companies produce a little gas which they use in their own drilling operations?

A. Certainly. Of course, all through the hearings that has not been taken into consideration.

Q. That gas is not marketed to the public and not taken into consideration when not marketed off the lease?

A. No.

Q. And have you, or your department, any statistics of such production as that?

A. No.

A recess was here taken until 1:30 o'clock P. M., of that day.

3221 Tuesday Afternoon, April 26, 1921.

And now, the hour of 1:30 o'clock P. M. having arrived, hearing resumed, pursuant to adjournment.

H. E. NEASE resumed the stand.

Cross-examination.

(By Mr. Weil:)

Q. You used the expression several times in connection with your examination, "Free Gas Consumers." You mean by that, do you not, gas supplied by the producer to the lessor under the terms of the lease as a part of the consideration of the lease, and also the gas supplied to those from whom rights-of-way have been obtained, and as a part of the consideration for the rights-of-way? Is that what you mean by the "Free Gas Consumers?

A. Yes; and any consumers to whom gas would be supplied without a money charge; that is the common term.

Q. Yes; I understand. In other words, it means gas that is supplied to consumers as a consideration of the lease, or as consideration for the rights-of-way, or the consideration for any other purpose except where gas is supplied at and under meter, or being paid for in money under the terms of some contract?

A. Yes.

Q. Calling your attention to Exhibit No. 61: I understood you to say that in that exhibit, which is headed "List of Independent Gas Producers who sell Gas to one or more of the Seven Com-
3222 panies," that you obtained that list by an examination of the returns made to the Public Service Commission or the Board of Public Works by those seven companies showing the parties from whom they purchased gas?

A. I so stated.

Q. Now, this acreage, which is here put down on Exhibit No. 61, you also testified you obtained from Pennsylvania Exhibit No. 54, being the amount of acreage assigned to these respective parties by Mr. Robinson in his testimony?

A. Yes.

Q. And you had no method of verifying those figures in any way?

A. I did not.

Q. And do you know of any way by which those figures could be verified except by personal inquiry or investigations of the parties themselves as to the amount of acreage——

A. I do not.

Q. The reports which are made to the Public Service Commission from which you have obtained this data show that they purchased gas from certain parties; that is, from certain producers, and that is all that that statement shows, is it not?

A. Well, it shows the quantity of gas produced.

Q. But it does not show the amount of acreage held by these producers from which the gas is produced.

A. It does not.

Q. And such a company, for example, might sell gas not
3223 only to these seven companies, but also to others, so far as those reports show?

A. Yes; in some cases, to a limited extent that is true; they do so.

Q. And this statement, therefore, is not intended to show—and I believe your testimony does not so imply—that these companies, or these parties named on Exhibit No. 61, sell to these seven companies all of the gas produced from the acreage named?

A. No; the statement was not prepared to show that.

Q. You have testified that Exhibit No. 61 showed 202 producers and of those 202 producers there were only 60 that appeared upon Robinson's Exhibit (Pennsylvania) No. 54.

A. Yes.

Q. The 142 other producers do not appear on Robinson's Exhibit No. 54?

A. They do not.

Q. And you have not assigned on this Exhibit No. 61 for those other 142 producers the amount of acreage held, operated or unoperated by them?

A. I have not.

Q. And you had no means, I think you stated, of ascertaining what that acreage was?

A. No.

Q. On Exhibit No. 62 you have the legend at the top—"Other Independent Producers Selling Gas to West Virginia Pub-
3224 lic Service Corporations." You obtained that information, if I remember your testimony correctly, from the same general source, by examining the reports filed by the public service corporations with the Public Service Commission on which they put down the parties from whom they purchased gas?

A. I did.

Q. And that was your only source of information?

A. It was.

Q. And these companies are public service corporations in addition to those mentioned on Exhibit No. 61?

A. What do you mean by that question?

Q. I mean by that Exhibit No. 62 purports to show the independent producers who are not mentioned on Exhibit No. 61 and who sell gas to public service corporations in the State?

A. Yes.

Q. Some of that gas is sold, is it not, to the seven companies?

A. Well, if it happens that any of these producers—that is likely true; I am not sure that any of these producers sell to the seven companies.

Q. You do not know?

A. No; none of these producers would sell to the seven companies.

Q. They do not?

A. No, because all of such producers would be on Exhibit No. 61.

3225 Q. Then these producers on Exhibit No. 62 sell to others than the seven companies?

A. Yes.

Q. That is, to other public service corporations than the seven companies?

A. Yes.

Q. Ten of these producers, with the amount of acreage that they hold, are included in Robinson's Exhibit (Pennsylvania) No. 54?

A. Yes.

Q. And the other 33 are not on that Exhibit?

A. Yes, the 33 are not.

Q. And you have not assigned to the other 33 the amount of acreage which they hold for the same reason; you did not know, and had no means of ascertaining?

A. Yes.

Q. You can't tell how many of those upon Exhibit No. 61 supply gas to others—sell to other public service corporations—as well as to the seven companies?

A. I don't have that information before me.

Q. You know, as a matter of fact, that some of them do?
A. Yes, some few of them do to quite a limited extent, however.
Q. You don't know how many, or to what extent?
A. Well, in a general way, I know very few of them, and the extent would be very small.

3226 Q. Why did you not collate that information also?
A. I will be unable to explain just why I didn't—I wasn't asked to do so.
Q. You mean by counsel representing the State of West Virginia?
A. Yes, sir.
Q. Neither of these statements—Exhibit No. 61 or Exhibit No. 62—purport to show the gas produced by the Public service companies themselves?
A. They do not.
Q. You used the expressions here in the legends at the top of Exhibit No. 61 and Exhibit No. 62—on No. 61 "List of Independent Gas Producers who sell Gas to one or more of the Seven Companies," and No. 62 "Other Independent Producers Selling Gas To West Virginia Public Service Corporations," I believe you have explained you mean by the term "Independent Producers" those not included in the seven companies to which you have referred.
A. Exhibit No. 62 shows independent producers selling to public service corporations, other than the seven companies.
Q. My question was: What do you mean by independent producers?
A. Well, producers of natural gas not engaged in the business of publicly marketing.
Q. That is what you meant by the term "Independent producer"?
A. Yes, sir.

3227 Q. In other words, they are producers who produce gas, but who have not engaged as a public utility in marketing gas to the public?
A. Yes; I think so; that would cover the situation.

Redirect examination.

(By Mr. Steptoe:)

Q. You were interrogated with reference to certain of the independent producers who sell gas both to the seven companies and also to other public service corporations in West Virginia. I believe you said you were not asked to produce that and did not collate it?
A. I so stated.
Q. Could you produce that if counsel for complainant states desires to have it produced?
A. I could.
Q. Would it take so very long?
A. Not long.
Q. You had no reason for making up that data other than that you were not requested to do so?
A. That was the only reason.

Q. Do you recall what the United States Geological Survey estimated as the amount of natural gas territory held in the State of West Virginia?

A. I have the amount for the year 1917.

Q. Is the amount available since that time?

A. No; it has not been issued to the public.

3228 Q. Suppose you tell us if you recall, the amount of acreage for the year 1917, and compare it with Mr. Robinson's statement of total acreage as shown on Pennsylvania Exhibit No. 54.

A. The Geological Survey for 1917 showed 3,787,185 acres held by natural gas producers in the State of West Virginia.

Q. Do I understand that was the figure given by the United States Geological report to cover all of the natural gas territory held by producers, public service corporations, as well as independent producers?

A. I so understand.

Q. Do you know how the holdings, as you have given them for the year 1917, would compare with the holdings at this time? Has the acreage increased or decreased?

A. I should say the acreage is less now than in 1917.

Q. On what do you base your opinion?

A. There has been a decline in the holdings of the larger companies. I base it on my knowledge of the fact——

Q. Has there been any considerable increase in the holdings of the smaller companies coming under your jurisdiction?

A. No, I would say the holdings are practically all utilized, by far greater numbers than in 1917.

Q. That was a peak year was it?

A. Yes. Along about that time a number of leases were surrendered.

3229 Q. Then, if we consider what I believe Mr. Robinson did not intend to imply, that the total acreage held is 4,896,691 that is about a million acres more than the Geological Survey gave for 1917?

A. Well, more than a million.

Recross-examination.

(By Mr. Weil:)

Q. You have stated you had no means of ascertaining from your records, or other sources, what the acreage holdings of the so-called independent producers are?

A. I so stated.

Q. And whether or not they increased their holdings after 1917, you have no means of ascertaining, and have made no investigation to ascertain, have you?

A. No.

Q. Whether or not such companies as the Commonwealth Company and the Pure Oil Company and other companies of like char-

acter—independent producing companies—increased their holdings, you do not know?

A. No.

The witness was then excused.

C. E. KREBS, called as a witness, and having been duly sworn, testified as follows:

Direct examination.

(By Mr. Steptoe:)

Q. Mr. Krebs, I believe you testified in this case heretofore as a witness for the State of West Virginia on direct testimony?

3230 A. Yes, sir.

Q. In the rebuttal testimony for the compalinant states there was put in evidence over our vigorous protest and appears on page 25-I of the typewritten record of rebuttal testimony, Pennsylvania Exhibit No. 53, which I now call your attention to. From what department of the Public Service Commission is the Charles B. Ebert whose name is signed to that exhibit?

A. Inspection Department, Gas Utilities.

Q. Do you know the purpose for which the statistics of that department are kept and how they are collated?

A. I am not sure that I know for what purpose they are kept, but they are collated from reports that are sent in monthly by the different public utilities.

Q. By public utilities you mean what we have been referring to as the public service corporations of West Virginia?

A. Yes, sir.

Q. I observe that Pennsylvania Exhibit No. 53 gives certain totals under or opposite capital letters running from B to O, both inclusive. I wish you would explain the total of 189,420,502 M cubic feet noted opposite the letter B.

A. B represents the total amount of gas produced by utilities from the number of wells that they are utilizing, and from this exhibit the number of wells appears to be 7709 5/12.

3231 Q. That is the total production of all the public service corporations?

A. That is.

Q. Now, taking the next letter—C—what is included within the 34,932,777 M cubic feet there listed as derived from 1074 2/12 wells?

A. This represents the production of gas purchased from small producers who do not report as utilities.

Q. Do I understand you to mean that is the amount marketed by what we have been calling the "independent producers" to the public service corporations?

A. It is.

Q. Now, explain E, being the amount purchased from West Virginia utilities and given at 49,012,245 M cubic feet.

A. That really represents an interchange between the utilities of gas one utility sold to another.

Q. Well, would that amount which is sold by one utility to another be included under either B or C?

A. Yes, it can be included in portions of both.

Q. In other words, B and C together cover the entire production of the public service corporations and the entire amount which they acquired by purchase from independent producers?

A. Yes, sir.

Q. And E, representing sale from one utility to another, would be a duplication?

A. Yes, sir.

3232 Q. F is self-explanatory—the amount imported into West Virginia—is it not?

A. Yes, from other states.

Q. Now then, if I correctly understand you as to E being a duplication, what would be the total gas production of the State, insofar as you could ascertain it from Pennsylvania Exhibit No. 53?

A. The amount of gas included in B and C; the amount included in B is 189,420,502 M cubic feet, and the amount included in C is 34,932,777 M cubic feet; the sum total of the two is 224,353,279 M cubic feet.

Q. Might you not obtain the same by taking the total shown under H as 278,801,513 and deducting therefrom the amount under E—purchased from West Virginia utilities —; the amount under F—imported to West Virginia —, and the amount under G—error in reporting?

A. Yes, sir.

Q. And does H, noted as " Debit Total," amounting to 278,801,513 M cubic feet, correctly represent the total production of West Virginia for the period mentioned?

A. It does not.

Q. What does it represent?

A. The total amount of gas handled in West Virginia by the different utilities.

Q. In order to illustrate, let me call your attention to the situation developed in the prior testimony where, for example, the United Fuel Gas Company sells and delivers within West

3233 Virginia something over seven million cubic feet to the Hope Company; something over seven million cubic feet to the Columbia Gas & Electric Company and something over six million cubic feet to the Pittsburgh & West Virginia Gas Company, being a total of practically twenty million M cubic feet. Where is that amount of gas credited on this Pennsylvania Exhibit No. 53?

A. Under the letter E.

Q. That is sold by one utility to another?

A. To another.

Q. Is it also credited elsewhere?

A. Yes, it can be credited in sales from the utilities to——

Q. Let me ask you if it is also credited from the producing companies?

A. Yes, it can also be credited from the independent producers from whom, for example, the United Fuel Gas Company may have purchased a portion of its gas.

Q. And the whole of it would also be credited to the United Fuel Company under its own or purchases from independent producers?

A. Yes, sir.

Q. And then again credited under E as sold to the Hope, Columbia and Pittsburgh & West Virginia?

A. Yes, sir.

Q. Now, I observe that the distribution, as shown on Pennsylvania Exhibit No. 53, and reflected under the headings I to O, inclusive, is made to balance with the total gas handled as shown under M. Are there any duplications in the distributions?

3234

A. Yes, sir.

Q. Please point out the duplications.

A. L would be a duplication; that is, sold to West Virginia utilities, because it may represent some of the gas that was produced.

Q. To illustrate, the heading I—sold in cities and towns in West Virginia—shows what character of service?

A. The public utility service.

Q. The public service corporations of West Virginia distribute to domestic and industrial consumers?

A. Yes.

Q. What does column headed J show?

A. Shows the amount of gas sold in field and main lines; that is, sold for drilling, for cleaning out wells, operating and for domestic gas; that is on gas which includes payments for rentals, rights of way, etc.

Q. Then I and J together, include all of the gas distributed in West Virginia to industrial and domestic consumers used in the field, and for free gas and also imported gas?

A. Yes, sir.

Q. Column L, where one utility sells to another, what becomes of that gas?

A. Well, that is an exchange between the utilities, one utility selling its gas to another which can be sold or redistributed by the utility purchasing the same.

3235

Q. Is not that term "exchange" a little misleading. As a matter of fact, is it not often sold by one utility to another where there is no gas given back in return?

A. Yes.

Q. There would be an ex*hcnage*, would there not?

A. Might be; in general, it is really a sale of gas.

Q. If the amount sold by one utility to another is utilized and marketed by the latter in West Virginia, does that amount appear anywhere else on Pennsylvania Exhibit No. 53?

A. It may appear under I or J.

Q. And if the amount sold by one utility to another utility is by the latter utility transported out of West Virginia, or sold at the State line for such transportation where would that amount appear?

A. It would appear under M.

Q. Then, what is the effect of L.? Is it already included under I, J, or M?

A. It is, and is therefore a duplication.

Q. The amount marketed in any one month is not the same as in any other month, so far as the public service corporation is concerned?

A. It is not.

Q. What is the year covered by Pennsylvania Exhibit No. 53?

A. The fiscal year of West Virginia; that is, from July 1, 1919, to June 30, 1920.

3236 Q. In the statistics given both by you and Mr. Nease—if you recall as to Mr. Nease—on direct examination, were you dealing with the fiscal year or calendar year?

A. Calendar year.

Q. Both you and Mr. Nease?

A. Yes, sir.

Q. It frequently happens, does it not, that gas produced in West Virginia passes through the hands of several companies before reaching the distributing company, which markets to the West Virginia consumer or exports, does it not?

A. It does.

Q. And in all those cases where one utility sells to another within West Virginia the amount so marketed is, as I understand you, twice shown in the meter or inspection department of the Public Service Commission, which undertakes to show the amount handled by each company?

A. It is.

Q. Now I understand you to be testifying from your own investigation and knowledge. Did you take the precaution to go over the matter of Pennsylvania Exhibit No. 53 with Mr. Ebert?

A. I did.

Q. You may state whether or not Mr. Ebert verified your statements which you have made here?

Mr. Weil: That is objected to as incompetent, irregular and mere hearsay, taking the statement of another party by this witness.

The Commissioner: Note the objection and let the witness answer.

3237 A. He did.

Mr. Steptoe: In reply to the objection it is suggested that the information elicited by the witness from Mr. Ebert is much more appropriate and properly in evidence than Pennsylvania Exhibit No. 53, introduced by the complainants under the circumstances illustrated by the record.

Mr. Weil: Since counsel for the Commonwealth of West Virginia proposes to argue the admissibility of this exhibit in the form of this reply, however inappropriate in the record, nevertheless attention is directed to the fact that the witness, not being an official of the State of West Virginia in charge of a certain department, any statement he may make or give out in connection with that department is inadmissible in evidence as an admission

on the part of the defendant, by West Virginia, which can only make admissions by its authorized agents and employes.

The Commissioner: Let the statement of counsel be noted.

Q. Are you able to state from your investigation touching Pennsylvania Exhibit No. 53 whether the heading J includes gas used in the manufacture of carbon?

A. It does.

Q. Do you know whether or not free gas is included under either J or I?

A. It is included under J.

Cross-examination.

(By Mr. Weil:)

Q. With what department of the State, Mr. Krebs, are you connected?

3238 A. No department. I was Assistant State Geologist for 6 years.

Q. You are not now, then, in the employ of the State of West Virginia except as a witness in this case?

A. That is all.

Q. Who is Mr. Ebert?

A. He is, as I understand it, a clerk in the Inspection Department of the Public Service Commission.

Q. This Inspection Department of gas utilities is one of the departments, then of the Public Service Commission?

A. Yes, sir.

Q. And these public utilities are required to make reports to the Public Service Commission giving the data that is set forth in this report?

A. I understand it is forwarded from the meter department.

Q. What do you mean by "the meter department"?

A. The department of the utilities in which the gas is measured.

Q. There is a meter department then, in the general department of the Public Service Commission?

A. Yes, sir.

Q. And that meter department, so-called, obtains reports from the public utilities as to the quantities of gas handled by those respective utilities?

A. It does.

Q. And those are collated and summarized from time to

3239 time in that department by the various employees who are there employed?

A. It is.

Q. You were, in no way, connected with that department?

A. I am not.

Q. And never have been?

A. I have not.

Q. Where is Mr. Ebert now?

A. His office is in Charleston.

Q. Is he still employed in the Inspection Department of the Public Service Commission?

A. I think he is.

Q. Does he occupy the same position substantially?

A. I think he does.

Q. That department has a chief inspector, has it not?

A. It has.

Q. And the testimony you have given in relation to this Exhibit No. 53, you obtained in part, from your examination of the Exhibit itself, and in part from talking with Mr. Ebert?

A. And in part from my own personal knowledge of the different public utilities, where I am more or less connected.

Q. And the conclusions and inferences that you have drawn are derived, in part, from the examination of the Exhib-t itself; in part from talking to Mr. Ebert and in part from certain information you possess with reference to some of these utilities?

3240 A. Yes, sir.

Q. Are you connected in any official capacity with any of these utilities?

A. I am working for——

Q. In what capacity?

A. As a geologist and general engineer.

Q. As a geologist and general engineer in connection with these utilities, do you have anything to do with the keeping of their records, as to their sales?

A. These are often discussed and taken under consideration as an engineering——

Q. I am asking you the question: if you in your employment with those utilities have anything to do with the keeping of their records as to their sales?

A. I have not.

Q. The information you got there is what some officer of those companies told you as to those sales, and as to the amount of gas they handled?

A. And in checking up the records from the office, which I have occasion, from time to time, to do, in making valuation of plants, etc.

Q. With what public utilities have you been associated or employed by in that connection?

A. I have been employed by the Pure Oil Company, and I have done work for the Libbey-Owens Bottle Company, Owens Bottle Company; I have done some work for the Falling Rock Cannel Coal Company, and a number of other small companies.

3241 Q. What others?

A. I have done work for the Logan Natural Gas Company.

Q. How long ago.

A. The last work I did was just about a year ago.

Q. What others?

A. I have done a lot of work for a number of small companies—the Carter Oil Company and the Manufacturers Light and Heat Company.

Q. What did you do for the Carter Oil Company?

A. Located some gas wells.

Q. What did you do for the Manufacturers Light and Heat Company?

A. I located some wells in Logan County; I don't think they have ever drilled them, but I located them.

Q. Did you, in connection with either of those companies, have any occasion to make any examination of their gas sales or gas production?

A. I did for the Logan Gas Company.

Q. Did you, in connection with the Manufacturers Heat & Light Company?

A. I did not. Then, I have also worked for Benedum & Trees.

Q. What are they?

A. Oil and gas operators.

Q. Are all the industrial plants in the State of West Virginia located in cities or towns?

A. I can not definitely answer that question.

3242 Q. Don't you know that there are a number of industrial plants that are not located in either cities or towns in the State of West Virginia?

A. I could not definitely say.

Q. Does not the legend "Sold in Cities and Towns in West Virginia," as it plainly states, mean the gas that was sold in such cities and towns, both for domestic and for industrial purposes, in those respective cities and towns?

A. Yes, sir.

Q. And does not the legend "Sold in Field and Main Lines" mean what it says—what is sold from those fields and main lines to consumers that are not in the cities and towns?

A. It does.

Q. And would include such industrial plants, if any, as take their gas from such fields and main lines?

A. It would.

Q. Then, when you stated in your direct examination that that legend J—"Sold in Field and Main Lines West Virginia"—did not include industrial gas, to that extent you were mistaken, were you not?

A. If I didn't state, I should have stated that J represented the meter measurement of field and main line gas sold for drilling and cleaning out wells, and for domestic use, free gas, etc., and also should include industrial gas, which I did not include in the first instance, on the line.

A. And does include, as a matter of fact, a very large amount that was sold for carbon black manufacture?

3243 A. It includes, possibly, forty per cent of the total amount.

Q. Which is quite a substantial amount besides free gas, such as you have described?

A. (No response.)

Q. Now, taking up the item L.—sold to West Virginia utilities. How do you know that that amount is a duplication of some of the other items?

A. Simply, that that gas is from utilities selling to different utilities, and has already been metered and credited elsewhere.

Q. How do you know that?

A. The heading says, "Sold to West Virginia Utilities" and should be, which is not included, "by utilities." I think it comes from reports from the utilities and in those reports they have "sold to West Virginia Utilities"—the "Utilities Sold to Utilities"—what it really means from the report they make themselves.

Q. How do you know that these sales are from one utility to another? Why doesn't that include gas that is sold to the West Virginia utilities by others than another utility?

A. None but the utilities report.

Q. The utilities report the amount of gas purchased?

A. Also the amount of gas sold.

Q. Well, they report the amount of gas purchased?

A. Yes, sir.

Q. Then the report of the utilities would show the amount of gas they purchased?

3244 A. Yes, sir.

Q. And it would show they purchased that amount of gas, for example, whether they purchased it from some other utility or independent producer?

A. It does.

Q. Why do you say that is gas that was sold to one utility by another, instead of gas that was sold, perhaps, by some other producer?

A. The utility makes report from what utility it purchased this gas.

Q. This does not say, "Sold to West Virginia Utilities by some utility," it simply says, "Sold to West Virginia Utilities."

A. It does not, but the report does. These utilities report——

Q. You didn't examine those reports, did you?

A. I did.

Q. Do you mean you examined every one of the reports from which this statement was made up?

A. No, sir.

Q. You did not examine them all?

A. No, sir.

Q. You don't know then, from an examination of those reports, whether this statement includes gas purchased from other utilities?

A. I went in——

Q. You don't know it from your own knowledge?

3245 A. Nothing except what I obtained from Mr. Ebert.

Q. Only from what you obtained from Mr. Ebert?

A. Yes, sir.

Q. Mr. Ebert is in the City of Charleston?

A. Yes, sir.

Q. And could testify if he wanted to?

A. Yes, sir.

Q. If he had been asked to testify by counsel representing the State of West Virginia?

A. Yes, sir.

Q. And he is the man who prepared this statement?
A. Yes, sir.
Q. And he is available for examination if desired?
A. Yes, sir.
Q. And still you are prepared to tell what Mr. Ebert told you as to this report?
A. Yes, sir.
Q. I call your attention to the legend—"E, Purchase from West Virginia utilities 49,012,245 M cubic feet while under legend L—"Sold to West Virginia utilities" the amount is 48,806,800 M cubic feet. How do you account for the discrepancy in those two amounts?
A. That is adjusted in N—line loss etc., and could also be adjusted in G—error in reporting.
Q. Why do you say that is adjusted in line loss?
A. Simply that either or both N and G are used to balance——

3246 Q. Can't you figure and see that if you add the total line loss, etc., to the "Sold to West Virginia Utilities" and to that add the total of "Error in reporting," the sum would not *the be* same as that shown under item E—"Purchased from West Virginia Utilities," 49,012,245 M cubic feet?
A. There is a little difference.
Q. Isn't there a big difference, runs up into the billion feet?
A. I don't know.
Q. Figure it again to see. Take 48,806,800 M cubic feet, add to that 66,357 M cubic feet—line loss—add to that "Error in reporting" 326 M cubic feet. What is the sum of those amounts?
A. 48,873,483 M cubic feet.
Q. Now, the amount given as purchased from West Virginia utilities, on this same statement is 49,012,245 M cubic feet. Is that correct?
A. It is.
Q. Then, when you charge the whole line loss on the lines to the gas purchased from West Virginia utilities alone, and ignore the line loss on the other 87,408,794 M cubic feet, and the other 142,519,562 M cubic feet, you still have a difference between those two figures—and also add in the "Error in Reporting,"—you still have a difference of 138,762 M cubic feet, do you not?
A. You would have 138,760 M cubic feet.
Q. All right—138,762 M cubic feet——

3247 A. Which is less than 3%.
Q. I don't care what the per cent is. How do you account for that discrepancy in those figures?
A. I would account for it personally—the irregularity, and the discrepancy in reporting.
Q. And you would not account for it as you did before by charging the whole line loss to this and the error in reporting to this. For what reason would you charge the whole line loss to this gas alone that was purchased from West Virginia utilities? Is not that a manifest absurdity?
A. I do not think so.

Q. Do you want the Court to understand then, that you, as an ex
pert, being examined upon this want them, in making this calcul
tion and examination of this statement to charge the line loss o
what is here given as practically 278, billion cubic feet to the 48 bi
lion cubic feet sold to the West Virginia utilities, and if so, why?

A. As I stated formerly, the measurement of this gas and the r
porting are done very inaccurately, while the loss may not be 48 bi
lion, yet it possibly is.

Q. That is the whole of it?

A. Yes, sir.

Q. Why?

A. Simply because of the way in which they are handling the g
and the measurements.

Q. What would lead you to that conclusion?

A. There are a number of questions entering into that.

3248 Q. Give us them.

A. The first thing is the leakage——

Q. Was there any more leakage on the lines on which gas was o
tained from the utilities than there was on the other lines?

A. Not necessarily, except where the gas is exported they used
have better lines—and there is less chance of error——

Q. That is only about half. What about the other half?

A. And the meters are read more carefully——

Q. What has the meter reading got to do with the line loss?

A. The whole thing is based on meter reading.

Q. How is the line loss estimated, and who estimates it?

A. I don't know.

Q. Do ou know anything about this item of line loss that is e
tered here?

A. Why, not specifically.

Q. Do you know how that amount was obtained?

A. I do not.

Q. Do you know whether it was obtained from the reports, or
timated, or how the figures were put down?

A. It was estimated.

Q. By whom?

A. By the Clerk——

3249 Q. By which clerk?

A. Mr. Ebert.

Q. Then this line loss does not appear anywhere upon the repo
of these public utilities, does it?

A. Except in order to balance the figures as recorded by them.

Q. Do you not know that a good deal of this gas that is sold to t
West Virginia utilities, is sold by producing companies to the vari
companies supplying cities and towns, like Charleston, Clarksbu
Fairmont, Wheeling, Parkersburg, Huntington, and other cities
the State of West Virginia?

A. I do not know.

Q. As a matter of fact, then, you do not know what these W
Virginia utilities, that purchase this gas, do with that gas?

A. They use it and resell it.

Q. You do not know where they sell it?

A. I do not.

Q. Whether they sell it in West Virginia, or whether they sell it elsewhere?

A. I do not.

Q. If it was sold outside of the State, would it not be included in the legend "M, exported from West Virginia 142,519,562 M cubic feet?"

A. A portion of it probably is included in that amount.

Q. If it was included in that amount, would it be given here as a separate item?

3250 A. Yes.

Q. Looking at that statement now, as a reasonable business man—which purports to give the amount of gas exported from West Virginia as 142,519,562 M cubic feet, and the amount sold to West Virginia utilities as 48,806,800 M cubic feet—would you say that any part of that 48,806,800 M cubic feet was included in that 142,519,562 M cubic feet?

A. On the face of the statement, I would not, but after dissecting it and finding out, you would be compelled to do so.

Q. If the exports from West Virginia were, as stated upon this report, 142,519,562 M cubic feet; if that were the fact, then the balance of that gas would be, in some way, used or consumed in the State of West Virginia, would it not?

A. It would if this gas was not duplicated; that is, the measurement of the gas duplicated, sold and resold and so recarded.

Q. These public service corporations that report to the Public Service Commission of West Virginia, do they show in their reports the amount of gas which they export from the State?

A. They do.

Q. Do you mean to say that they show more than that 142,519,562 M cubic feet as stated in this duplication?

A. No.

Redirect examination.

(By Mr. Steptoe:)

3251 Q. Are you undertaking to support, or to say that the figures given on Pennsylvania Exhibit No. 53, are correct, or are you undertaking to explain the heading?

A. I am undertaking to explain the heading.

Q. And that explanation is based on your own information and from information obtained from Mr. Ebert?

A. Yes, sir.

Q. You have stated that column E, relating to the supply of gas was a duplication; that column L, relating to the distribution was a duplication. Did Mr. Ebert give you that information?

A. Yes.

Mr. Weil: That is objected to as incompetent, irrelevant and immaterial, and as being hearsay, Mr. Ebert being and officer of the State, present in the City of Charleston, and as a witness could be

called by the State and examined, and his statements made to another witness need not be proven in that way.

The Commissioner: Note the objection.

Q. And the amounts purport to show the total gas handled instead of the total production and purchases?

A. Yes, sir.

Q. Now, does that statement reflect under any heading the amount of gas purchased from independent producers by the public service corporations of West Virginia? If so, which one?

A. C shows what is purchased from independent producers.

Q. And E shows what is purchased——

3252 A. From utilities.

Q. West Virginia utilities?

A. West Virginia utilities.

Recross-examination.

(By Mr. Weil:)

Q. How do you know C, which says "Purchased from West Virginia Producers * * * from 1,074 2/12 wells" is from independent producers?

A. Because it is from producers who do not report to the department, and are not utilities.

Q. How do you know that?—Or are you just guessing at it?

A. I am not guessing at it.

Q. How do you know it?

A. I know it from information obtained from Mr. Ebert.

Q. You know that from what Mr. Ebert told you and from no other source?

A. And from the headings, having had them fully explained by Mr. Ebert.

Q. And that is the only way you know it?

A. Yes, sir.

Mr. Blue: The State of West Virginia, by her counsel, announces on the record that she closes her case.

The Commissioner: Let the record show that the State of West Virginia has closed its case; that the Commonwealth of Pennsylvania and the State of Ohio have already closed their case, and that
3253 the testimony taken in the causes is now complete, and the hearing is ended.